Pantheon Report

Generated at 2018-10-10 02:18:07 (UTC).

Data path: Brazil on `p4p1` (*remote*) →AWS Brazil 1 on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

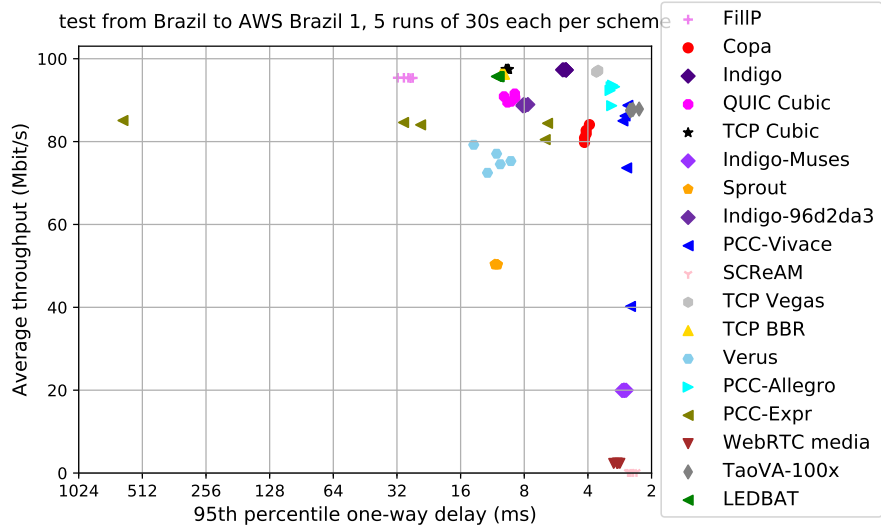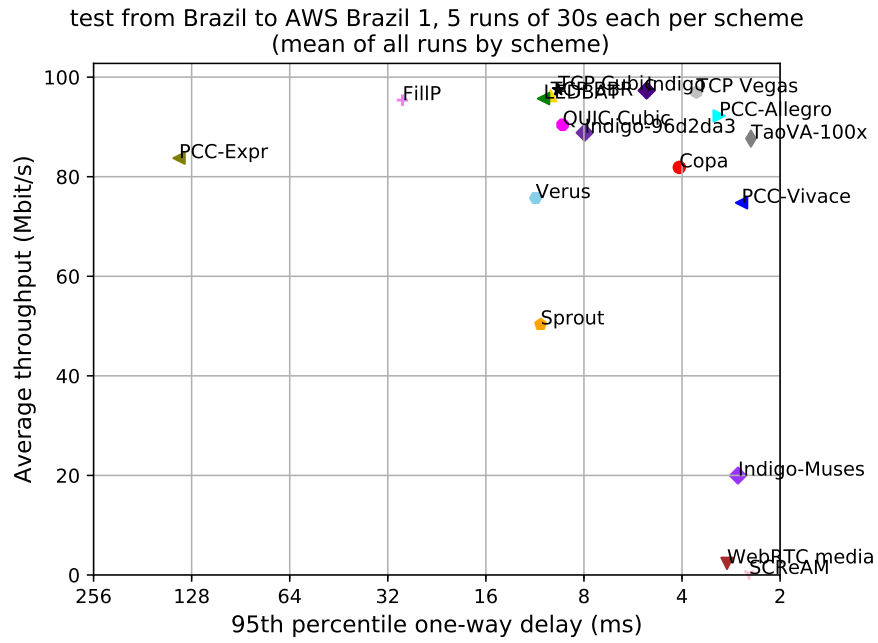NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

```
System info:
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from Brazil to AWS Brazil 1, 5 runs of 30s each per scheme
(mean of all runs by scheme)

test from Brazil to AWS Brazil 1, 5 runs of 30s each per scheme

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	96.27	10.12	0.16
Copa	5	81.88	4.08	0.02
TCP Cubic	5	97.46	9.60	0.05
FillP	5	95.37	28.84	2.07
Indigo	5	97.31	5.14	0.02
Indigo-96d2da3	5	88.83	7.96	0.03
LEDBAT	5	95.69	10.64	0.08
Indigo-Muses	5	19.96	2.69	0.02
PCC-Allegro	5	92.21	3.08	0.02
PCC-Expr	5	83.73	139.93	0.19
QUIC Cubic	5	90.43	9.30	0.02
SCReAM	5	0.22	2.49	0.08
Sprout	5	50.34	10.87	0.04
TaoVA-100x	5	87.65	2.46	0.02
TCP Vegas	5	96.96	3.61	0.02
Verus	5	75.72	11.25	0.05
PCC-Vivace	5	74.76	2.63	0.02
WebRTC media	5	2.34	2.91	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-10 00:35:32
End at: 2018-10-10 00:36:02
Local clock offset: -6.644 ms
Remote clock offset: -0.15 ms


# Below is generated by plot.py at 2018-10-10 02:06:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 10.220 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 10.220 ms
Loss rate: 0.15%
```
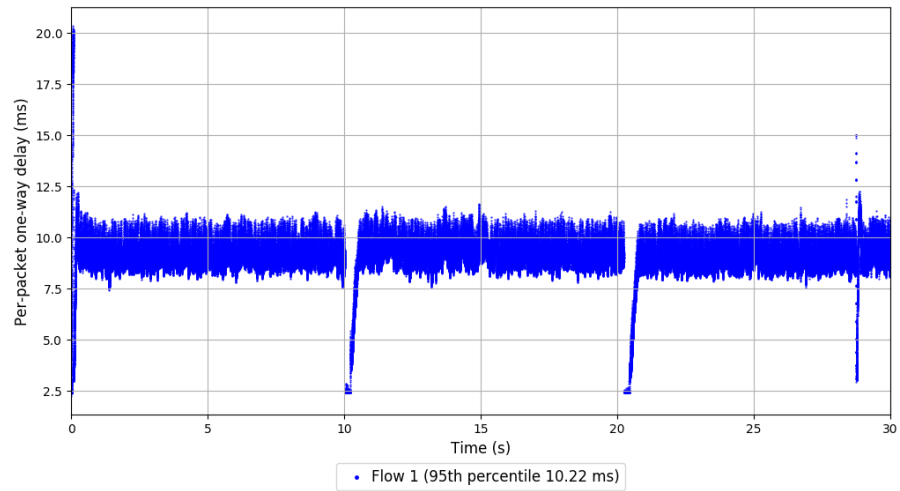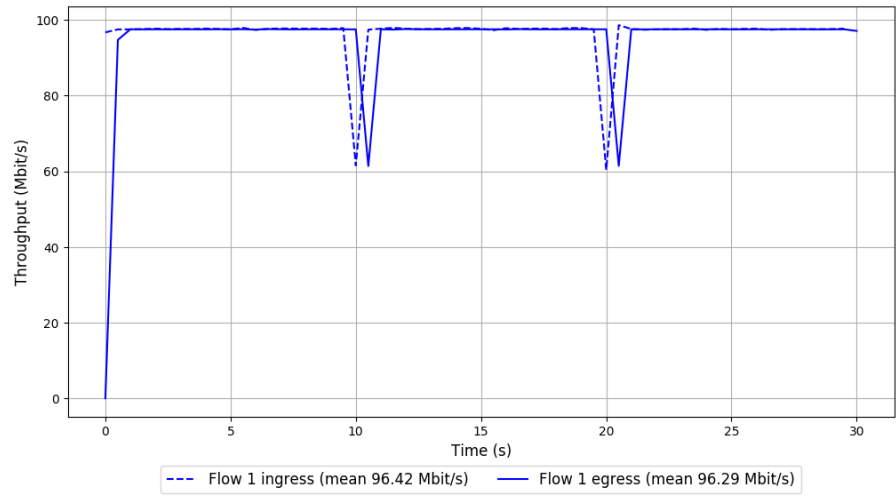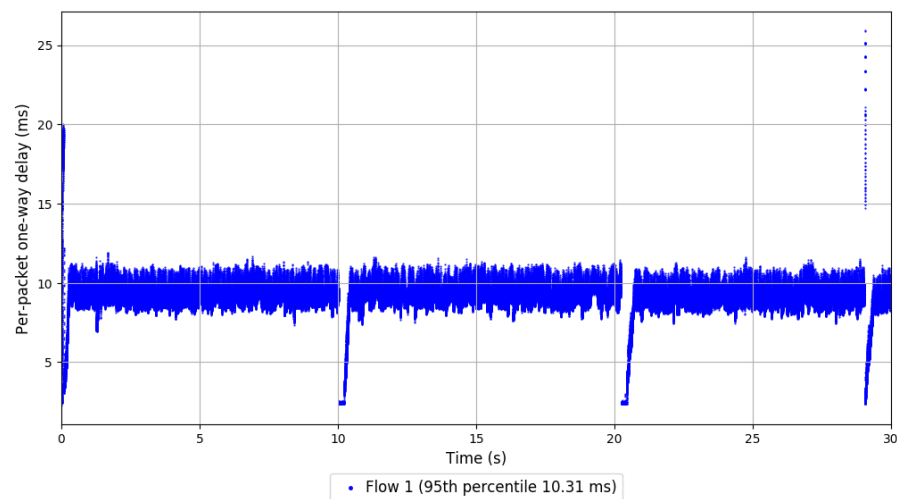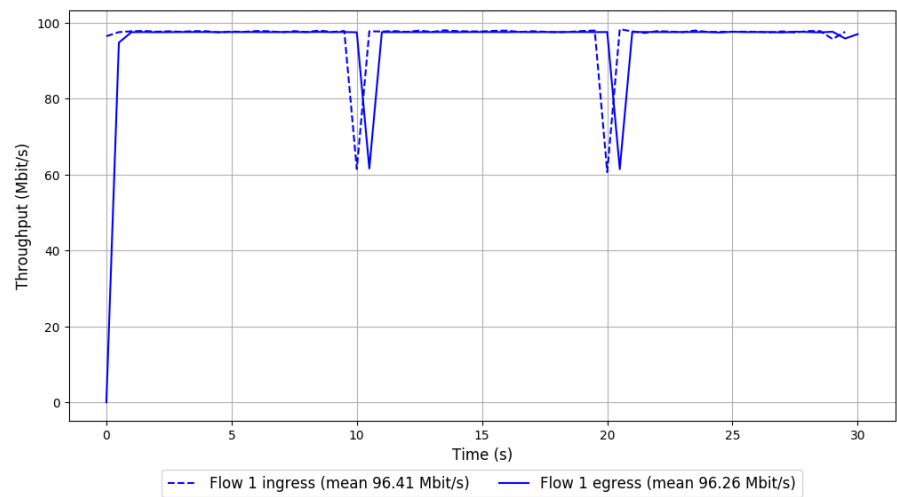
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-10-10 00:55:51
End at: 2018-10-10 00:56:21
Local clock offset: -7.228 ms
Remote clock offset: 0.139 ms


# Below is generated by plot.py at 2018-10-10 02:06:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 10.306 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 10.306 ms
Loss rate: 0.18%
```
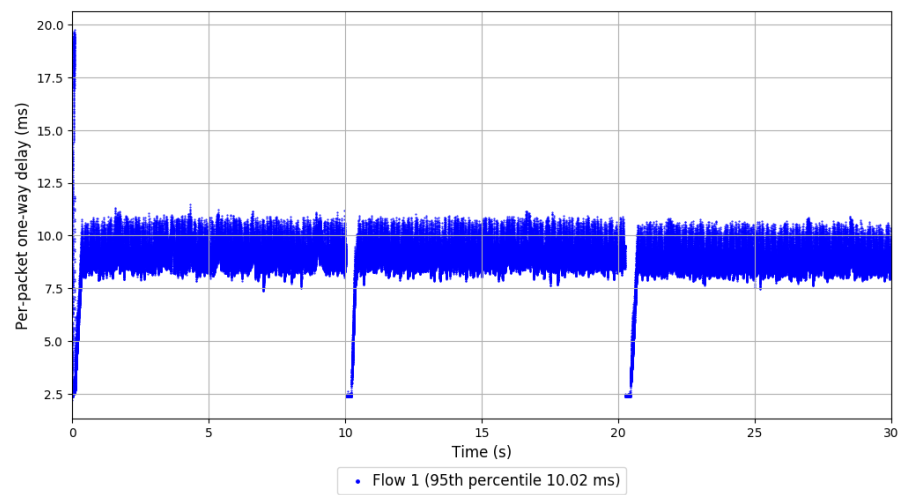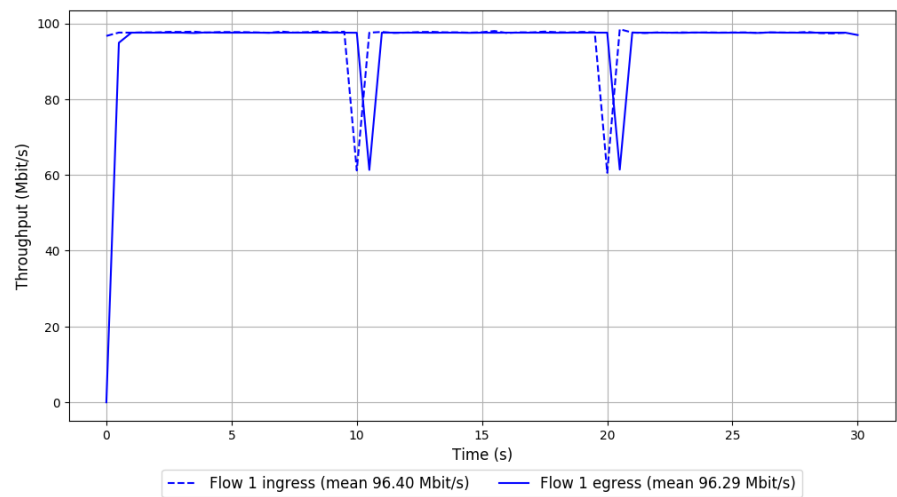
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-10 01:16:13
End at: 2018-10-10 01:16:43
Local clock offset: -6.77 ms
Remote clock offset: 0.523 ms


# Below is generated by plot.py at 2018-10-10 02:06:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 10.016 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 10.016 ms
Loss rate: 0.13%
```
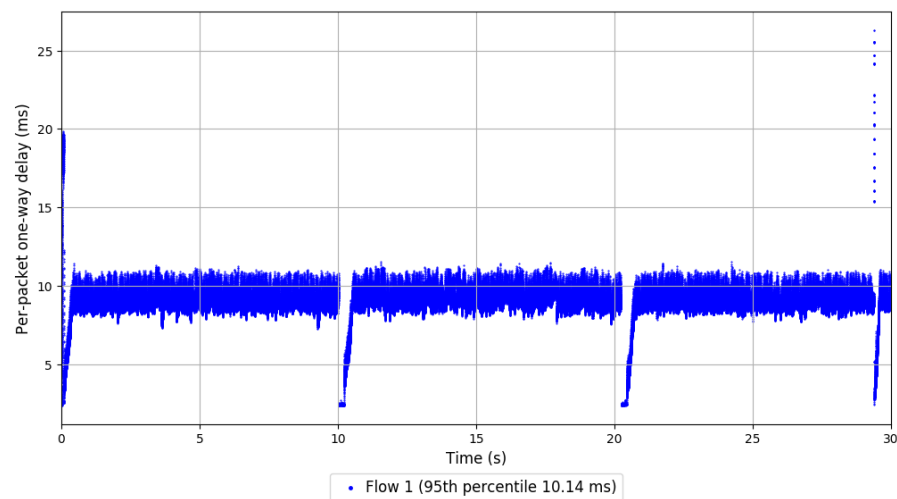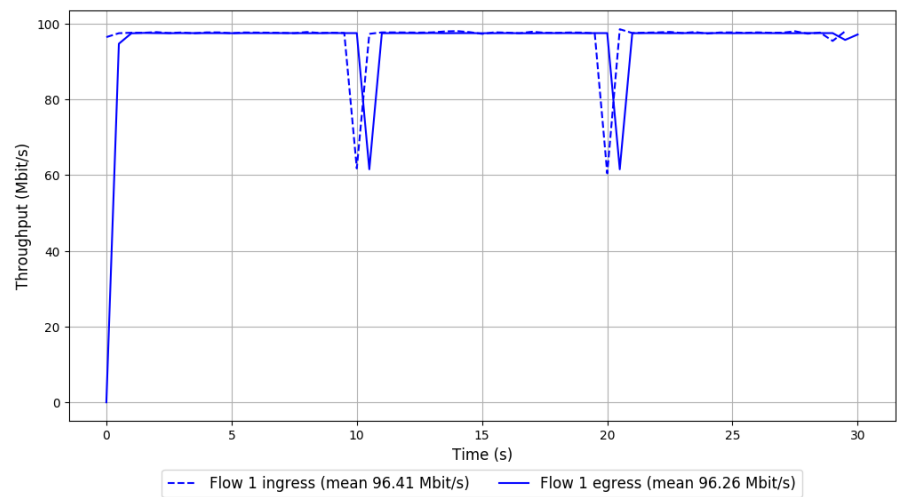
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-10 01:36:35
End at: 2018-10-10 01:37:05
Local clock offset: -6.597 ms
Remote clock offset: 0.625 ms


# Below is generated by plot.py at 2018-10-10 02:06:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 10.141 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 10.141 ms
Loss rate: 0.17%
```
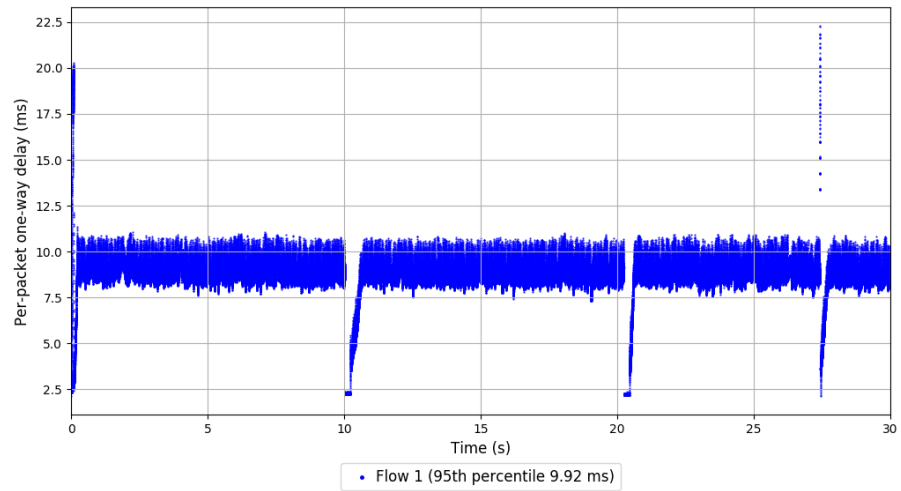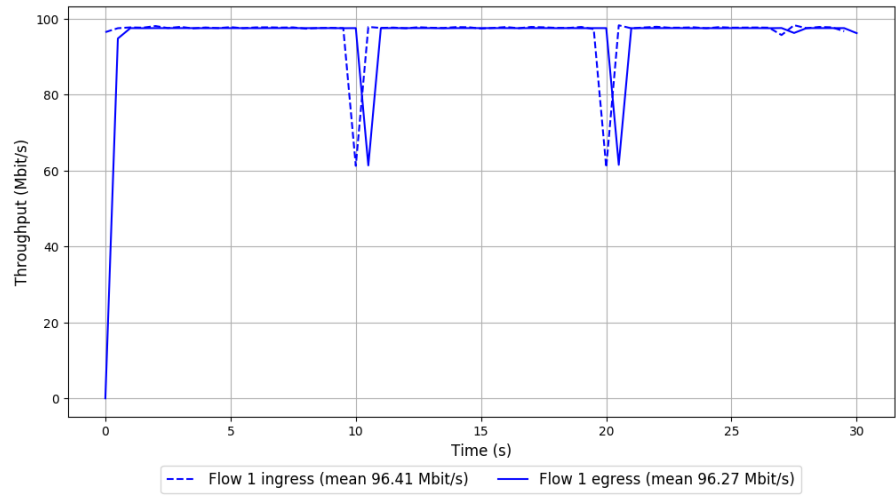
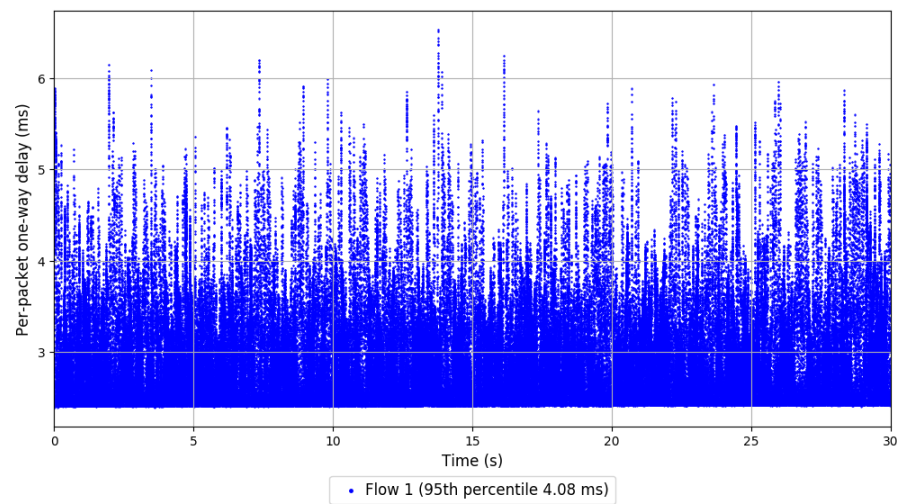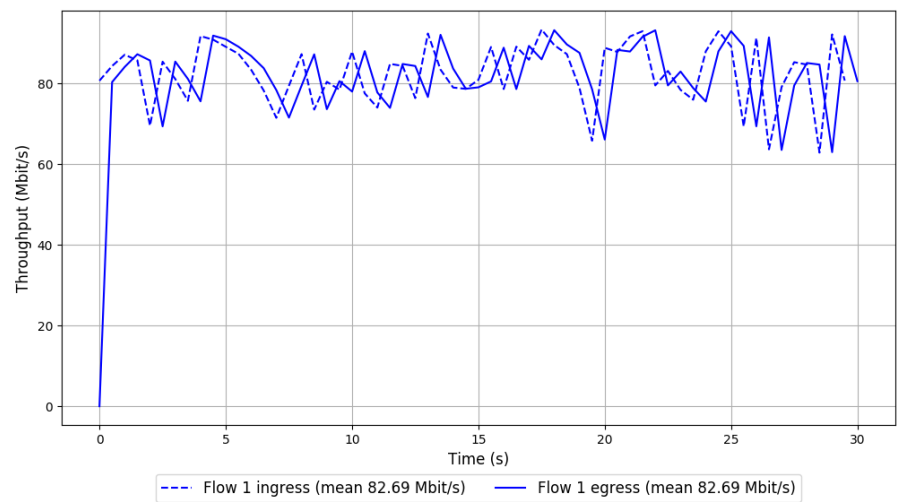Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 96.41 Mbit/s)   Flow 1 egress (mean 96.26 Mbit/s)

· Flow 1 (95th percentile 10.14 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-10-10 01:56:56
End at: 2018-10-10 01:57:26
Local clock offset: -5.568 ms
Remote clock offset: 0.631 ms

# Below is generated by plot.py at 2018-10-10 02:06:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 9.923 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 9.923 ms
Loss rate: 0.16%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 96.41 Mbit/s)   Flow 1 egress (mean 96.27 Mbit/s)

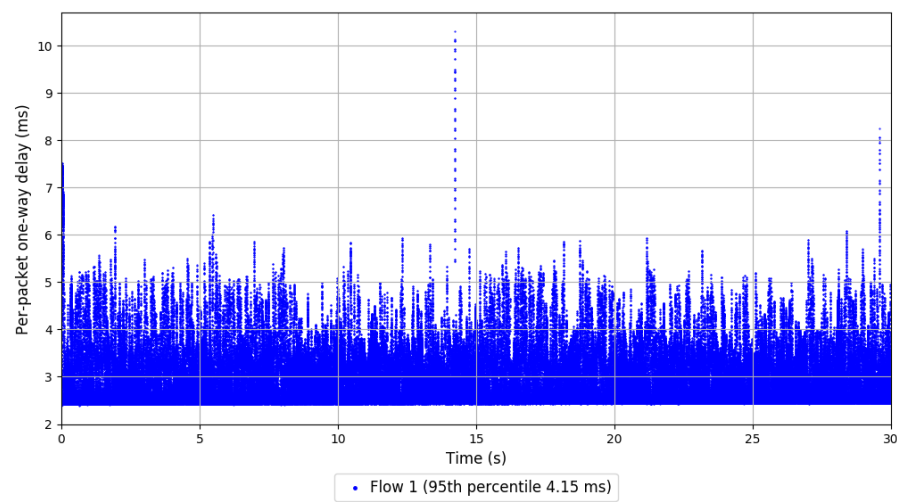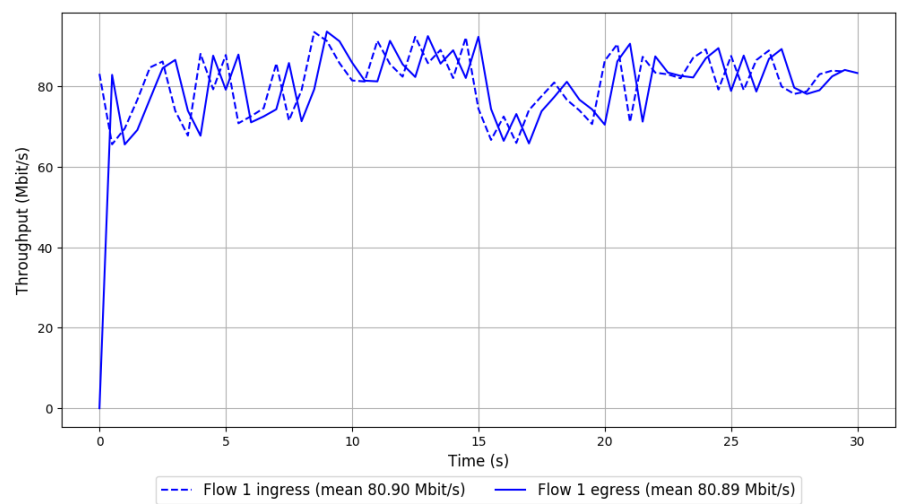• Flow 1 (95th percentile 9.92 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-10-10 00:22:56
End at: 2018-10-10 00:23:26
Local clock offset: -5.962 ms
Remote clock offset: -0.372 ms


# Below is generated by plot.py at 2018-10-10 02:07:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.69 Mbit/s
95th percentile per-packet one-way delay: 4.077 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 82.69 Mbit/s
95th percentile per-packet one-way delay: 4.077 ms
Loss rate: 0.02%
```

Run 1: Report of Copa — Data Link

Run 2: Statistics of Copa

Start at: 2018-10-10 00:43:18
End at: 2018-10-10 00:43:48
Local clock offset: -6.959 ms
Remote clock offset: -0.076 ms

Below is generated by plot.py at 2018-10-10 02:07:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.89 Mbit/s
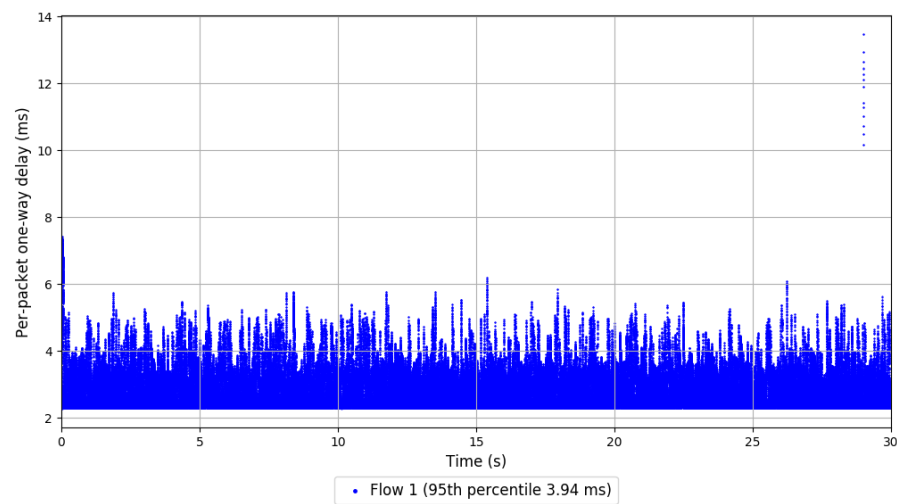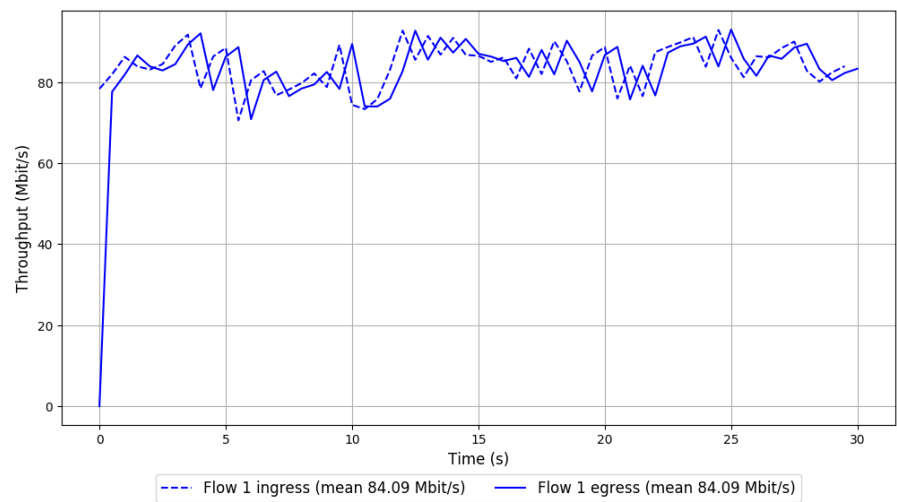95th percentile per-packet one-way delay: 4.149 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 4.149 ms
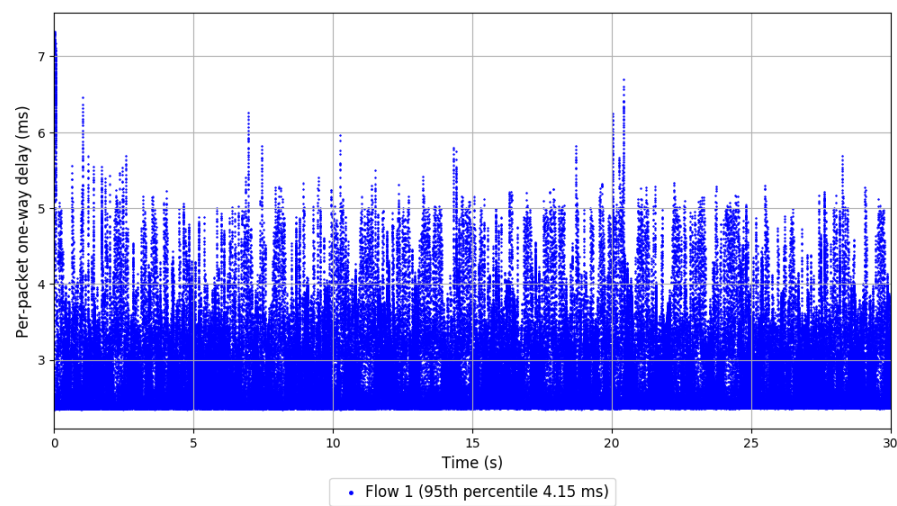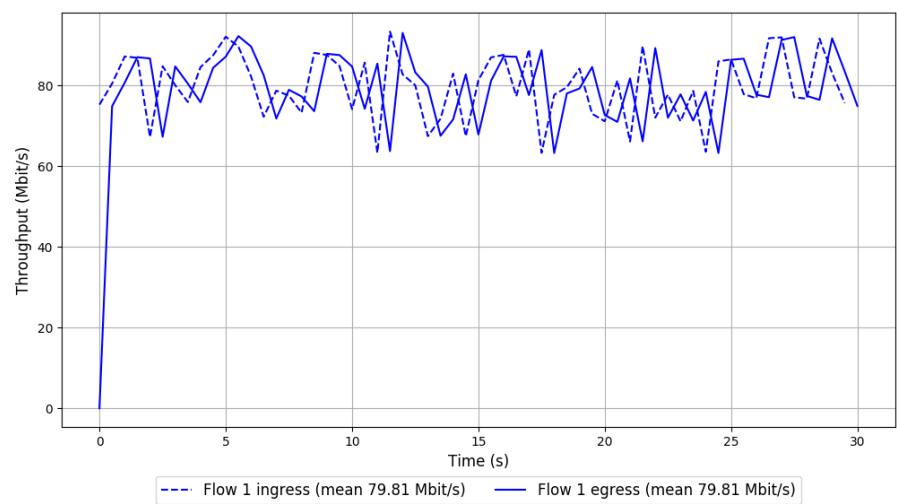Loss rate: 0.02%

Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 80.90 Mbit/s)   Flow 1 egress (mean 80.89 Mbit/s)

• Flow 1 (95th percentile 4.15 ms)

```
Run 3: Statistics of Copa

Start at: 2018-10-10 01:03:37
End at: 2018-10-10 01:04:07
Local clock offset: -6.892 ms
Remote clock offset: 0.357 ms


# Below is generated by plot.py at 2018-10-10 02:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.09 Mbit/s
95th percentile per-packet one-way delay: 3.935 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 84.09 Mbit/s
95th percentile per-packet one-way delay: 3.935 ms
Loss rate: 0.02%
```

Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-10-10 01:23:59
End at: 2018-10-10 01:24:29
Local clock offset: -6.823 ms
Remote clock offset: 0.57 ms


# Below is generated by plot.py at 2018-10-10 02:08:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.81 Mbit/s
95th percentile per-packet one-way delay: 4.151 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 79.81 Mbit/s
95th percentile per-packet one-way delay: 4.151 ms
Loss rate: 0.02%
```

Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-10-10 01:44:21
End at: 2018-10-10 01:44:51
Local clock offset: -6.561 ms
Remote clock offset: 0.657 ms


# Below is generated by plot.py at 2018-10-10 02:08:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.90 Mbit/s
95th percentile per-packet one-way delay: 4.075 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 81.90 Mbit/s
95th percentile per-packet one-way delay: 4.075 ms
Loss rate: 0.02%
```
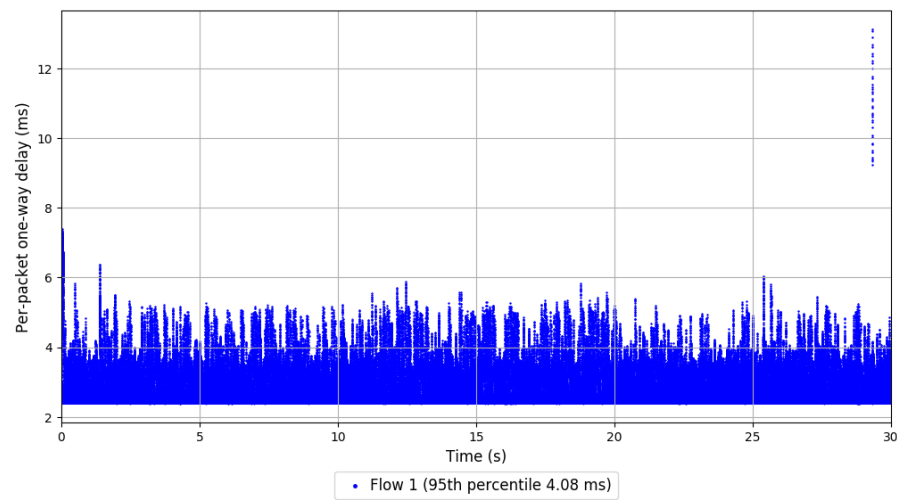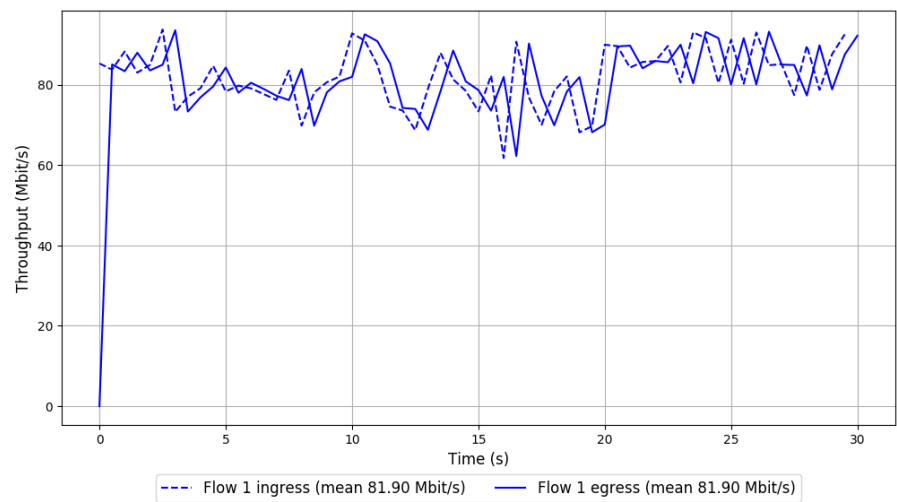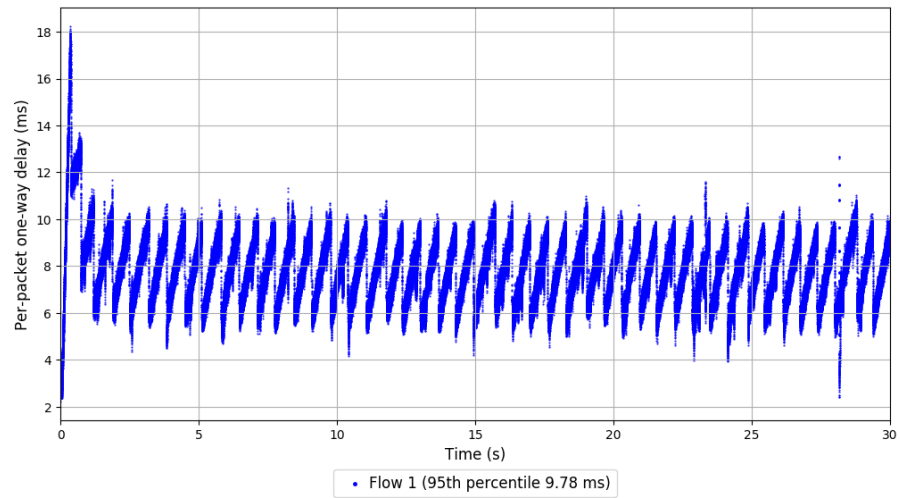
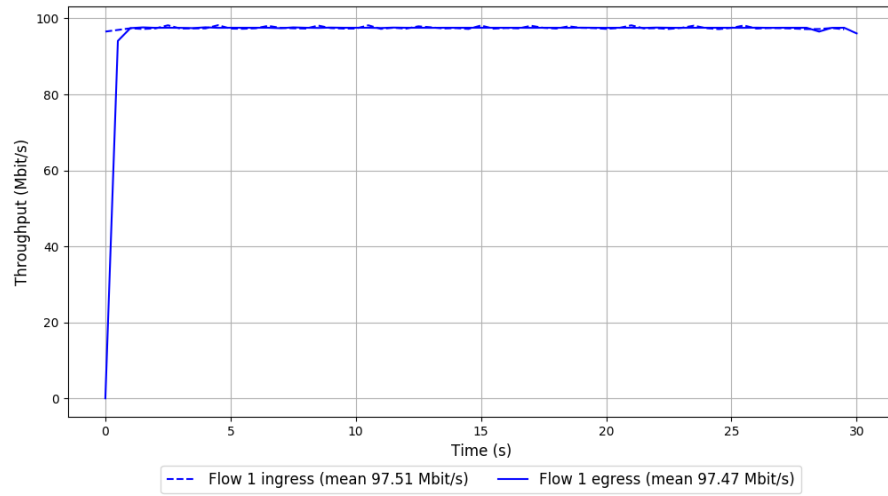Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-10 00:30:56
End at: 2018-10-10 00:31:26
Local clock offset: -6.432 ms
Remote clock offset: -0.223 ms


# Below is generated by plot.py at 2018-10-10 02:08:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.783 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.783 ms
Loss rate: 0.06%
```
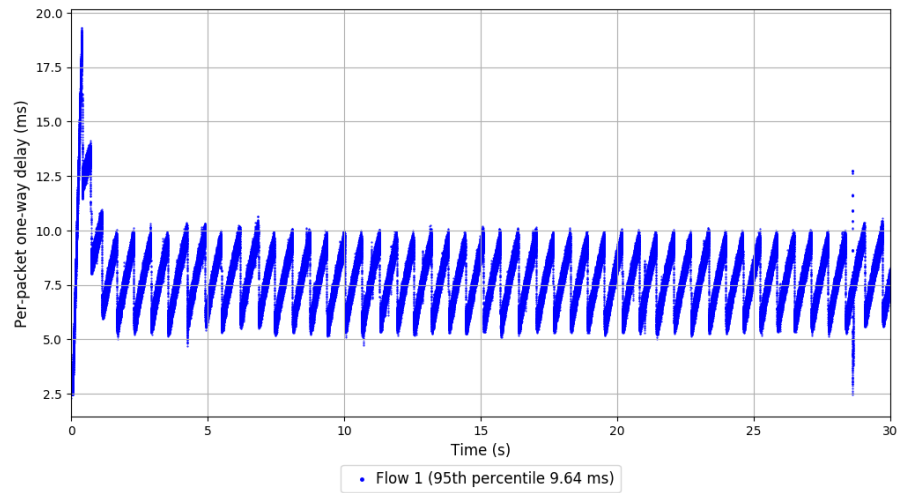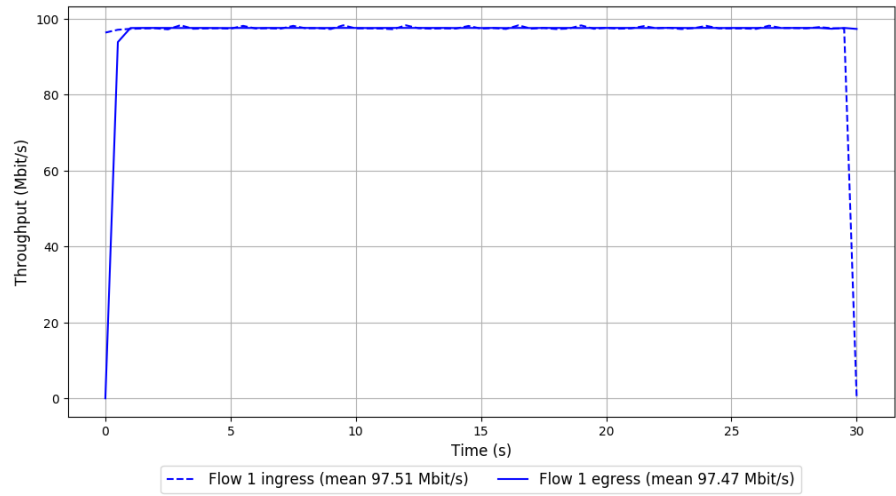
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 97.51 Mbit/s)   Flow 1 egress (mean 97.47 Mbit/s)

Flow 1 (95th percentile 9.78 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-10 00:51:15
End at: 2018-10-10 00:51:45
Local clock offset: -7.204 ms
Remote clock offset: 0.062 ms


# Below is generated by plot.py at 2018-10-10 02:08:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.641 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.641 ms
Loss rate: 0.05%
```
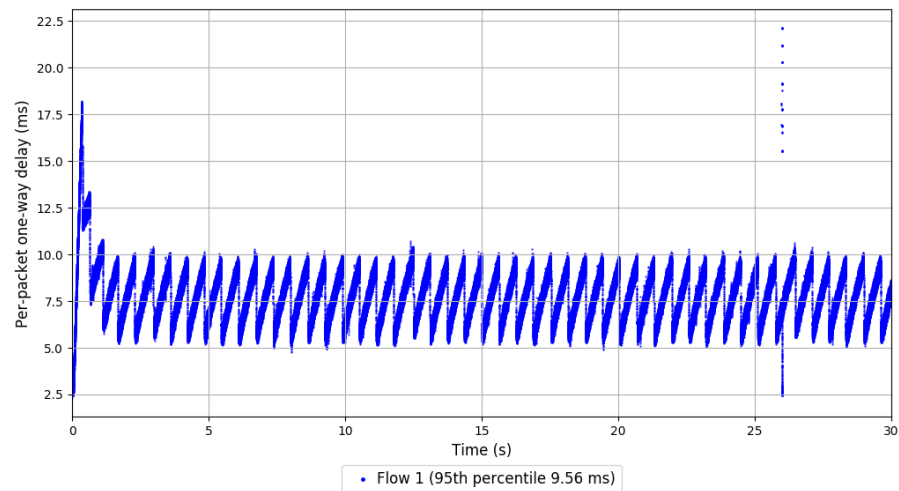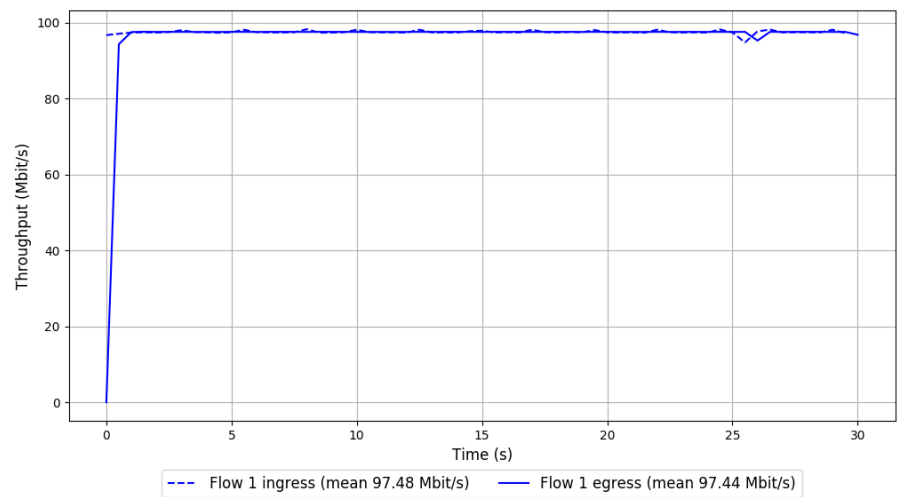
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-10 01:11:37
End at: 2018-10-10 01:12:07
Local clock offset: -6.738 ms
Remote clock offset: 0.423 ms


# Below is generated by plot.py at 2018-10-10 02:08:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 9.563 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 9.563 ms
Loss rate: 0.05%
```
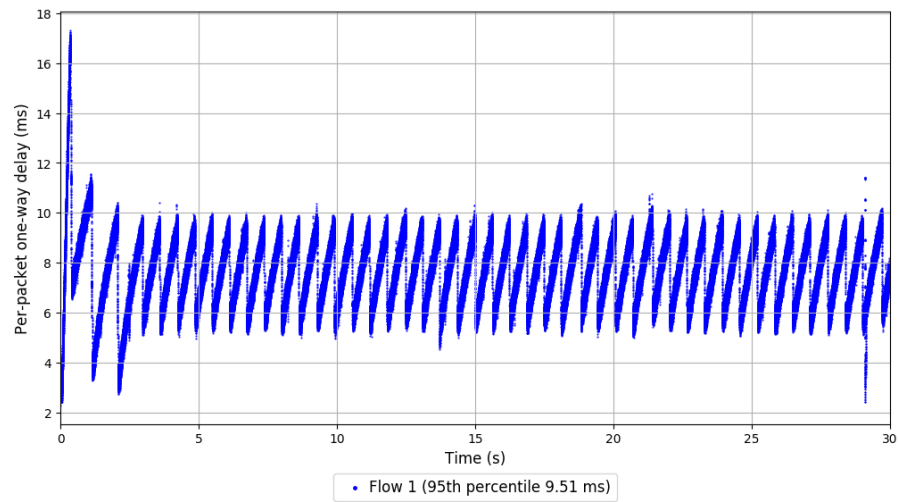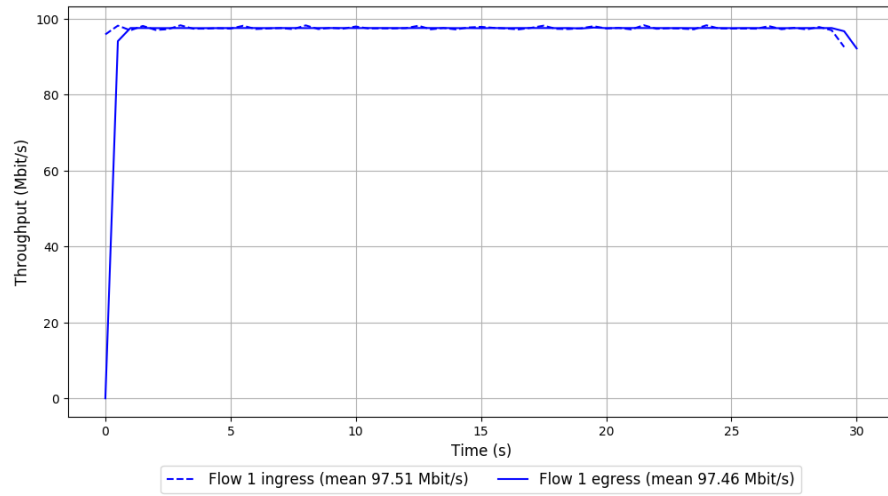
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 97.48 Mbit/s)   Flow 1 egress (mean 97.44 Mbit/s)

Flow 1 (95th percentile 9.56 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-10 01:31:59
End at: 2018-10-10 01:32:29
Local clock offset: -6.627 ms
Remote clock offset: 0.583 ms


# Below is generated by plot.py at 2018-10-10 02:08:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 9.505 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 9.505 ms
Loss rate: 0.06%
```
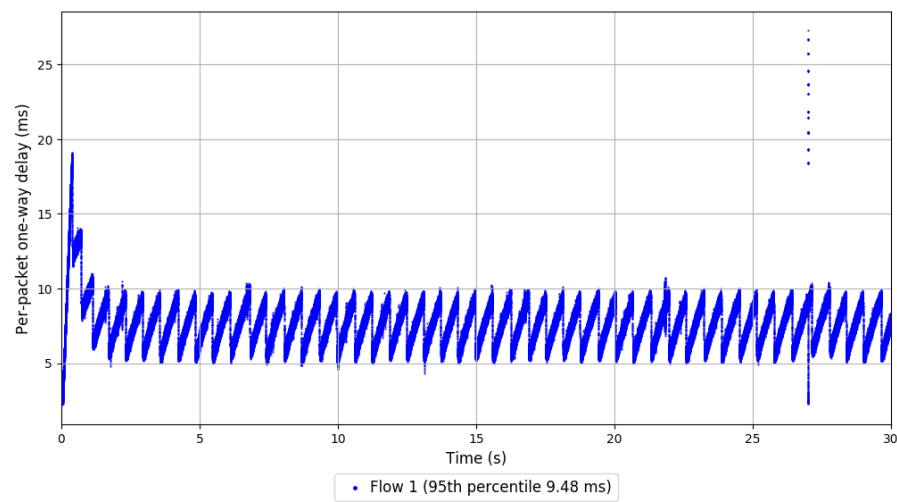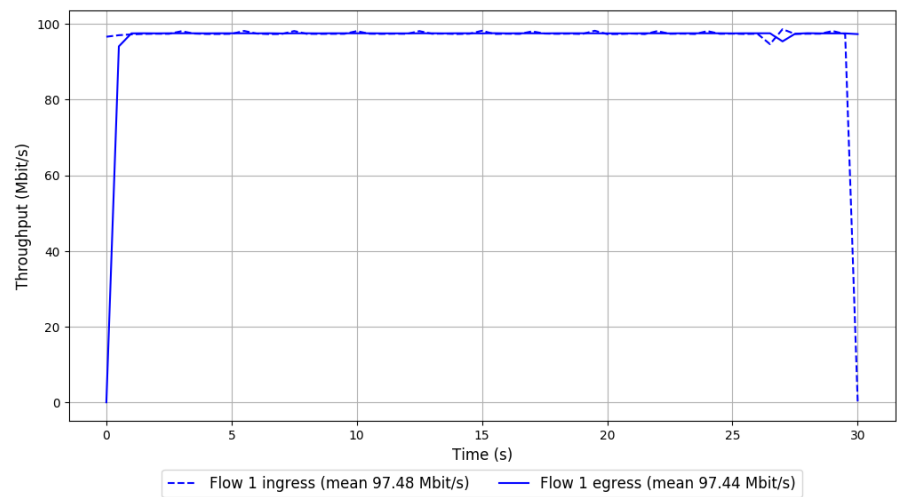
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-10 01:52:20
End at: 2018-10-10 01:52:50
Local clock offset: -6.66 ms
Remote clock offset: 0.684 ms


# Below is generated by plot.py at 2018-10-10 02:08:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 9.484 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 9.484 ms
Loss rate: 0.05%
```
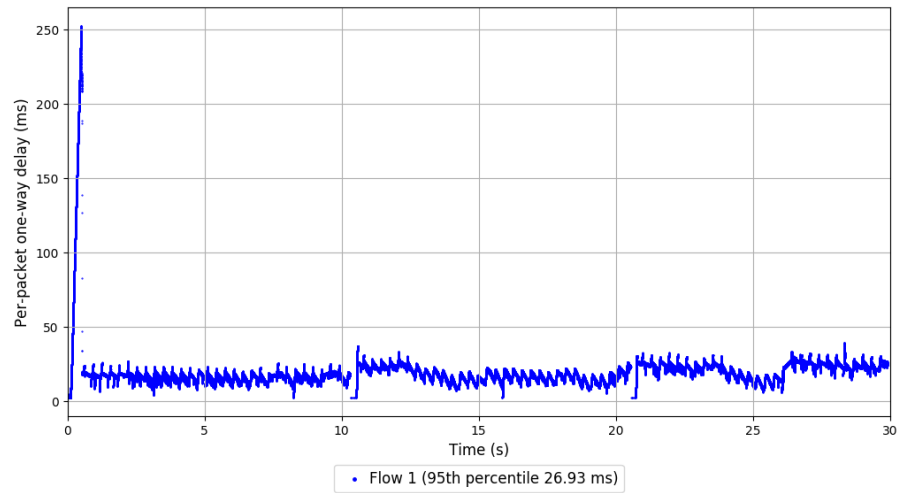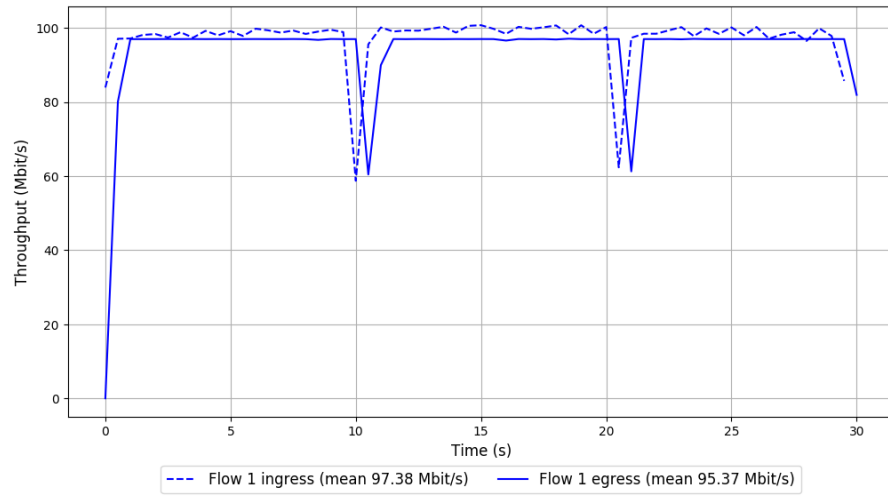
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 97.48 Mbit/s)   Flow 1 egress (mean 97.44 Mbit/s)

Flow 1 (95th percentile 9.48 ms)

```
Run 1: Statistics of FillP

Start at: 2018-10-10 00:41:06
End at: 2018-10-10 00:41:36
Local clock offset: -6.878 ms
Remote clock offset: -0.05 ms


# Below is generated by plot.py at 2018-10-10 02:09:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 26.928 ms
Loss rate: 2.08%
-- Flow 1:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 26.928 ms
Loss rate: 2.08%
```
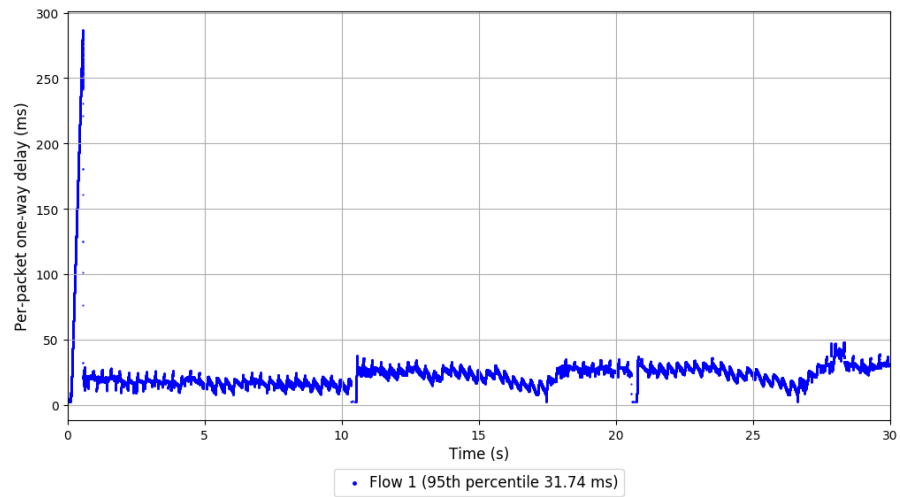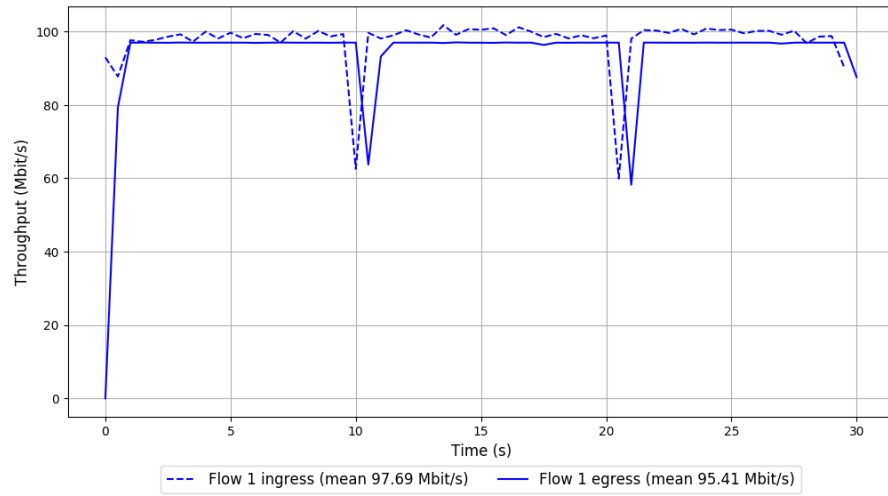
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 97.38 Mbit/s) --- Flow 1 egress (mean 95.37 Mbit/s)

Flow 1 (95th percentile 26.93 ms)

```
Run 2: Statistics of FillP

Start at: 2018-10-10 01:01:25
End at: 2018-10-10 01:01:55
Local clock offset: -6.902 ms
Remote clock offset: 0.174 ms


# Below is generated by plot.py at 2018-10-10 02:09:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 31.741 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 31.741 ms
Loss rate: 2.35%
```

Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-10-10 01:21:47
End at: 2018-10-10 01:22:17
Local clock offset: -6.803 ms
Remote clock offset: 0.493 ms

# Below is generated by plot.py at 2018-10-10 02:09:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.30 Mbit/s
95th percentile per-packet one-way delay: 27.600 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 95.30 Mbit/s
95th percentile per-packet one-way delay: 27.600 ms
Loss rate: 2.57%
```
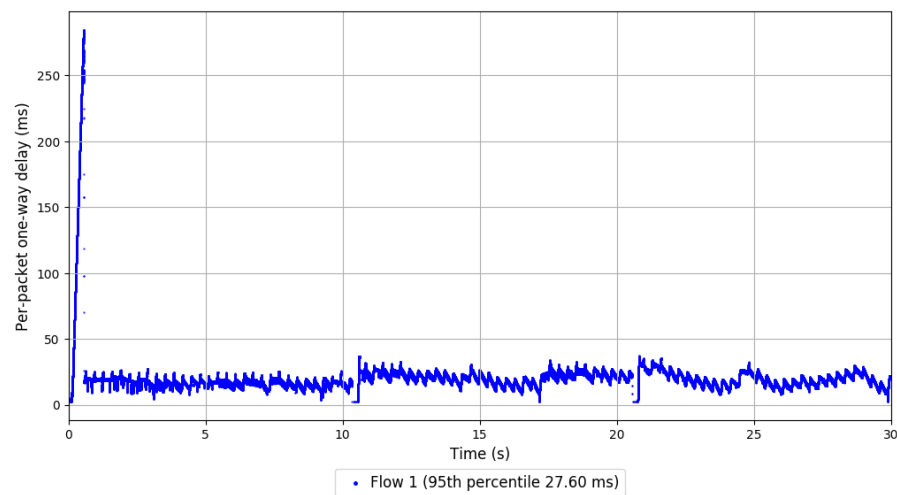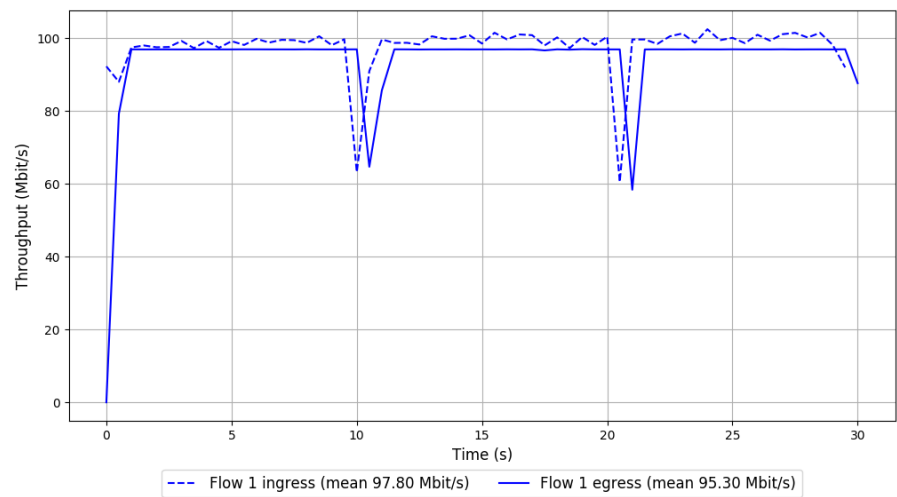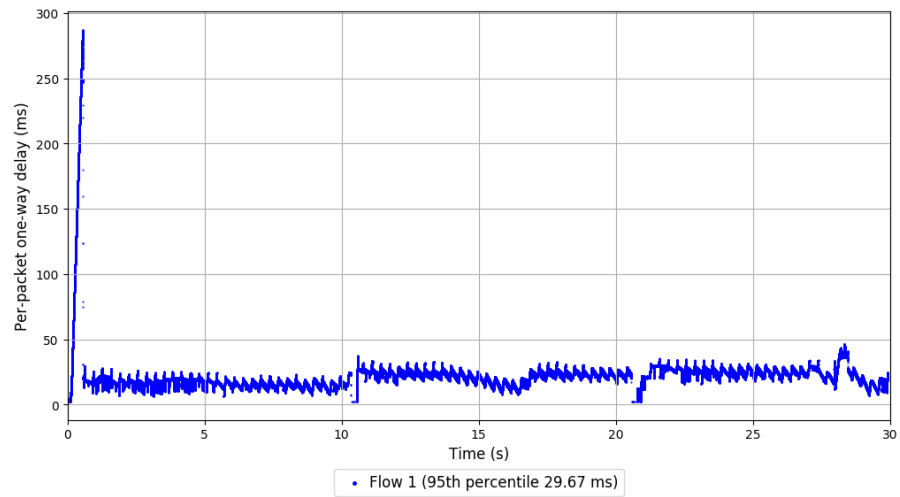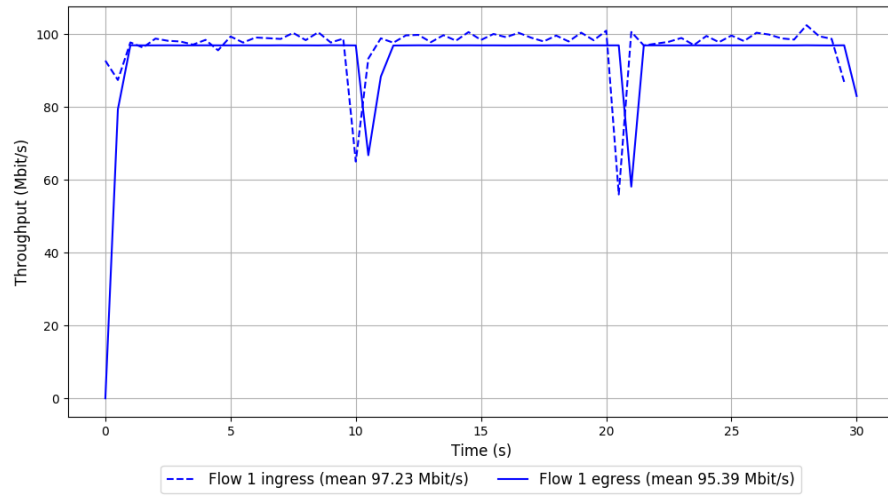
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 97.80 Mbit/s) — — —   Flow 1 egress (mean 95.30 Mbit/s) ———

Flow 1 (95th percentile 27.60 ms)

```
Run 4: Statistics of FillP

Start at: 2018-10-10 01:42:09
End at: 2018-10-10 01:42:39
Local clock offset: -6.579 ms
Remote clock offset: 0.663 ms


# Below is generated by plot.py at 2018-10-10 02:09:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 29.669 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 29.669 ms
Loss rate: 1.91%
```
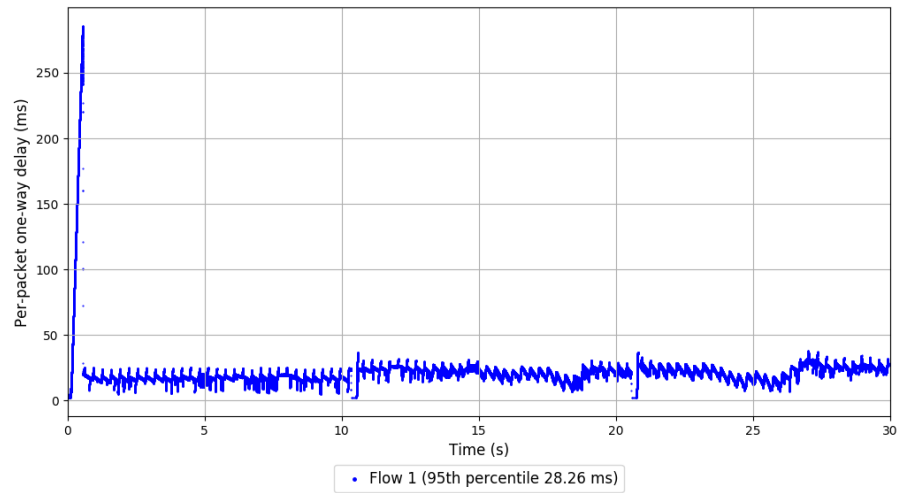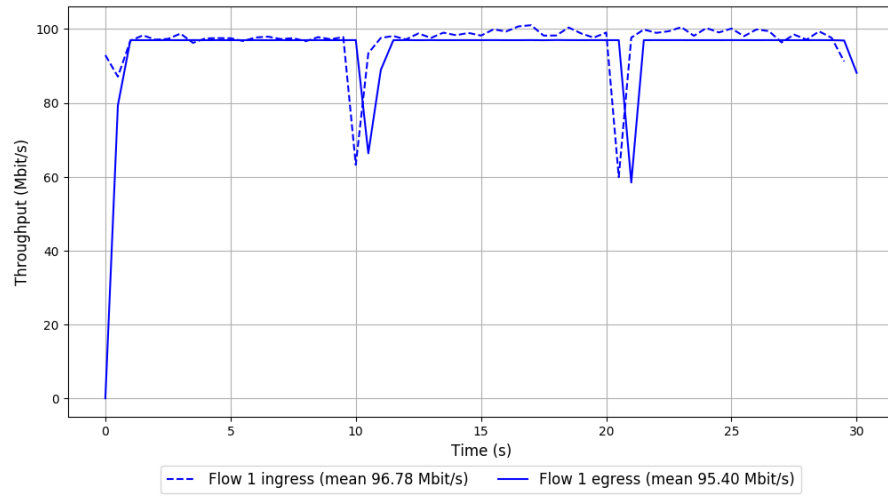
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 97.23 Mbit/s) --- Flow 1 egress (mean 95.39 Mbit/s)

Flow 1 (95th percentile 29.67 ms)

```
Run 5: Statistics of FillP

Start at: 2018-10-10 02:02:30
End at: 2018-10-10 02:03:00
Local clock offset: -3.669 ms
Remote clock offset: 0.683 ms


# Below is generated by plot.py at 2018-10-10 02:10:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.40 Mbit/s
95th percentile per-packet one-way delay: 28.263 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 95.40 Mbit/s
95th percentile per-packet one-way delay: 28.263 ms
Loss rate: 1.44%
```

Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 96.78 Mbit/s) --- Flow 1 egress (mean 95.40 Mbit/s)

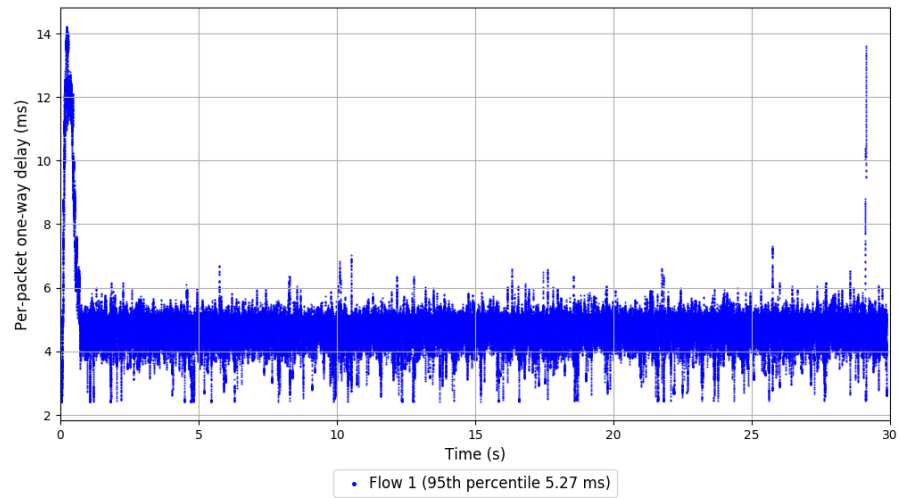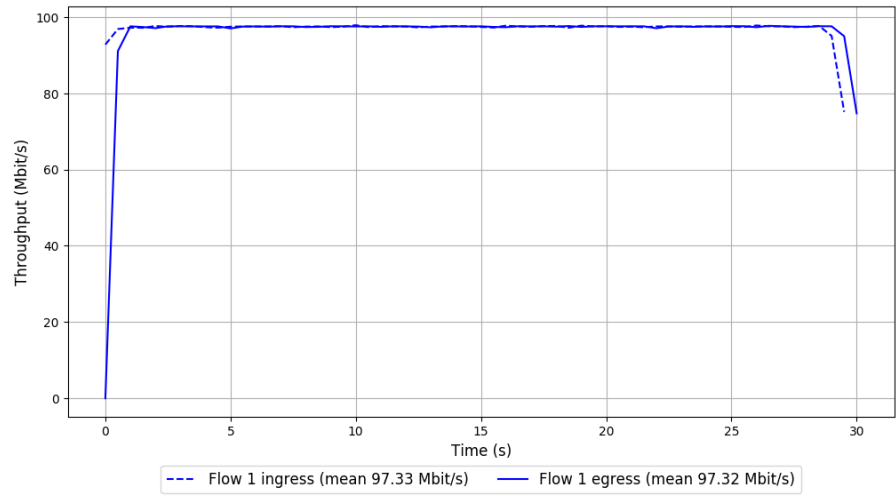Flow 1 (95th percentile 28.26 ms)

44

```
Run 1: Statistics of Indigo

Start at: 2018-10-10 00:28:42
End at: 2018-10-10 00:29:12
Local clock offset: -6.363 ms
Remote clock offset: -0.355 ms


# Below is generated by plot.py at 2018-10-10 02:10:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.32 Mbit/s
95th percentile per-packet one-way delay: 5.271 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.32 Mbit/s
95th percentile per-packet one-way delay: 5.271 ms
Loss rate: 0.02%
```
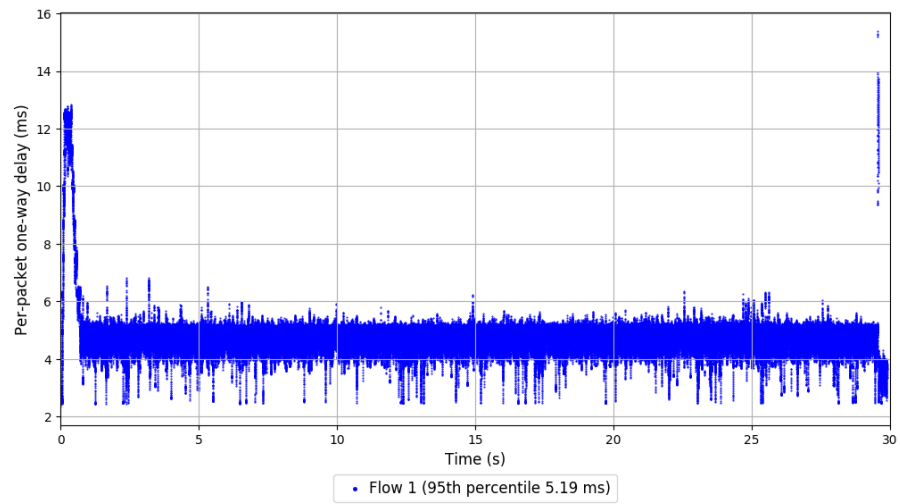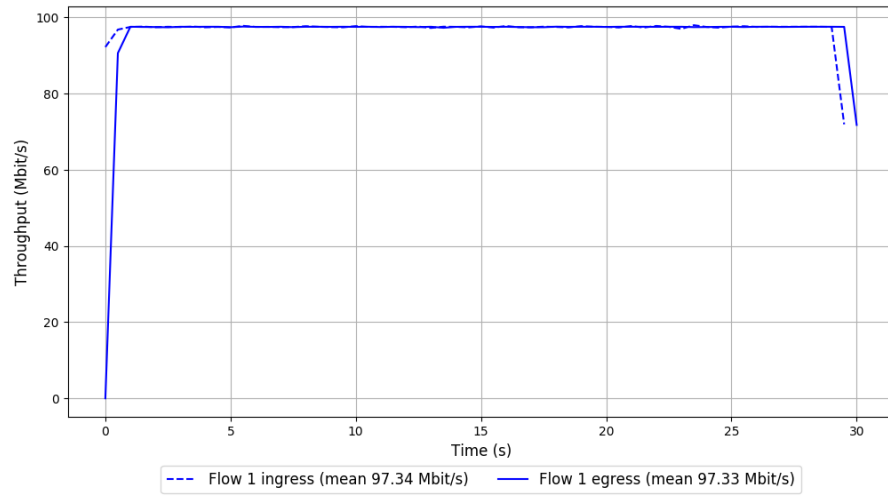
Run 1: Report of Indigo — Data Link

Flow 1 ingress (mean 97.33 Mbit/s)   Flow 1 egress (mean 97.32 Mbit/s)

Flow 1 (95th percentile 5.27 ms)

```
Run 2: Statistics of Indigo

Start at: 2018-10-10 00:49:01
End at: 2018-10-10 00:49:31
Local clock offset: -7.132 ms
Remote clock offset: 0.022 ms


# Below is generated by plot.py at 2018-10-10 02:10:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 5.193 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 5.193 ms
Loss rate: 0.02%
```
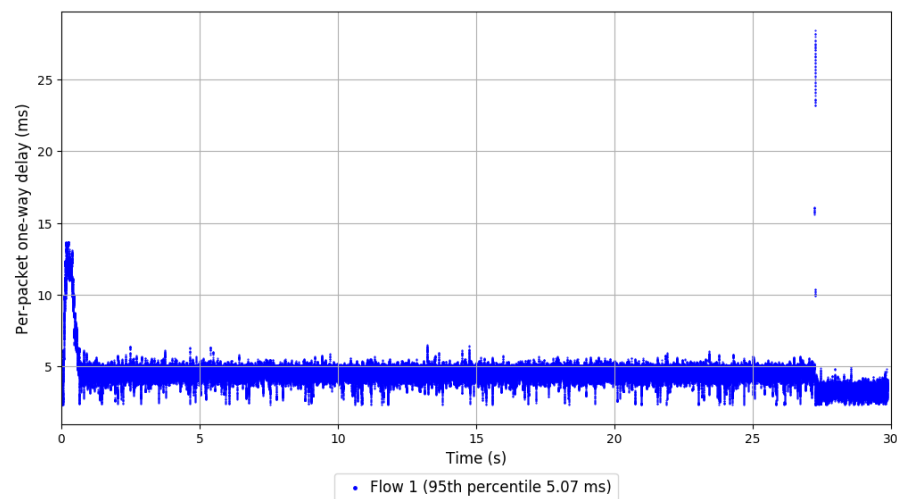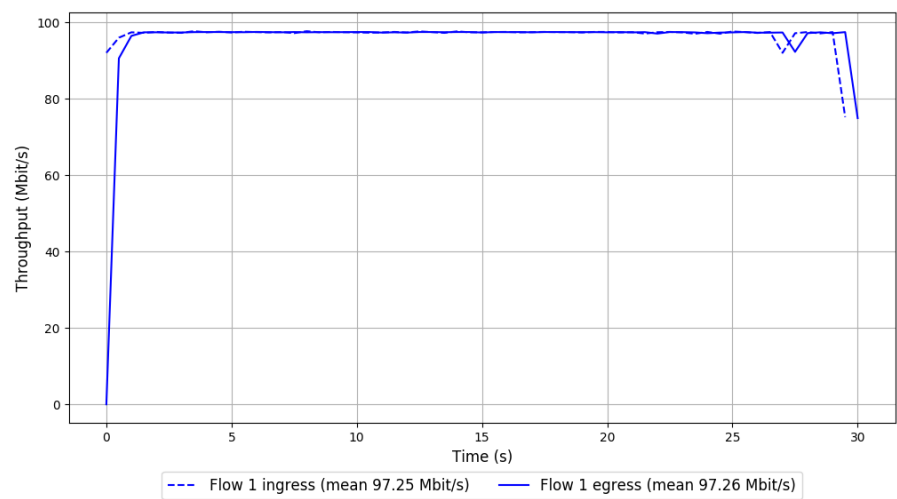
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 97.34 Mbit/s)   Flow 1 egress (mean 97.33 Mbit/s)

Flow 1 (95th percentile 5.19 ms)

```
Run 3: Statistics of Indigo

Start at: 2018-10-10 01:09:22
End at: 2018-10-10 01:09:52
Local clock offset: -6.755 ms
Remote clock offset: 0.458 ms


# Below is generated by plot.py at 2018-10-10 02:10:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.26 Mbit/s
95th percentile per-packet one-way delay: 5.067 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.26 Mbit/s
95th percentile per-packet one-way delay: 5.067 ms
Loss rate: 0.02%
```

Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-10-10 01:29:44
End at: 2018-10-10 01:30:14
Local clock offset: -6.736 ms
Remote clock offset: 0.52 ms


# Below is generated by plot.py at 2018-10-10 02:10:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 5.084 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 5.084 ms
Loss rate: 0.02%
```
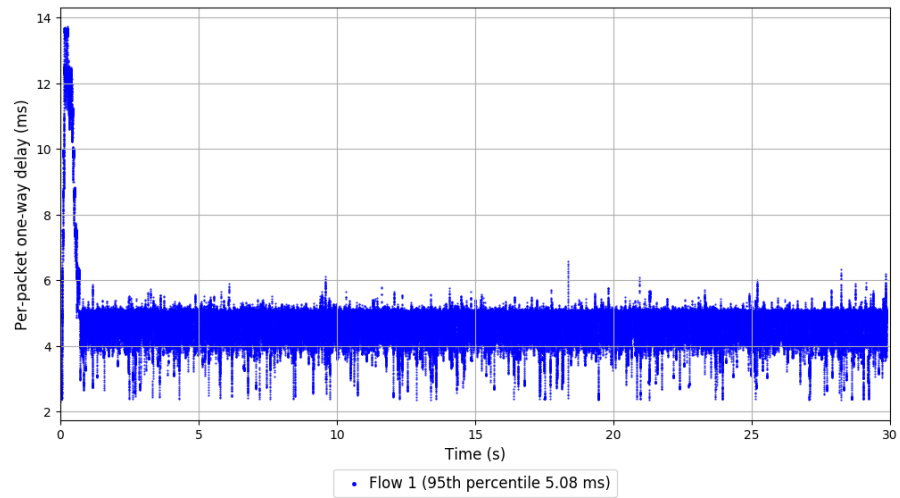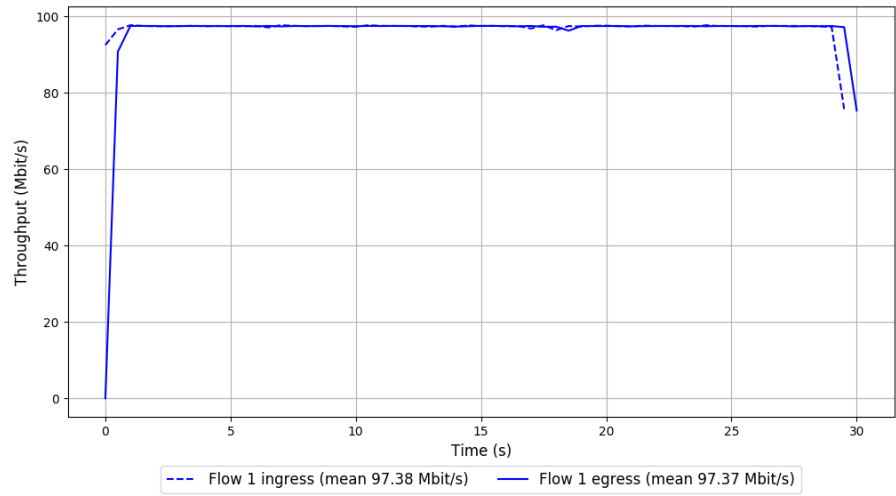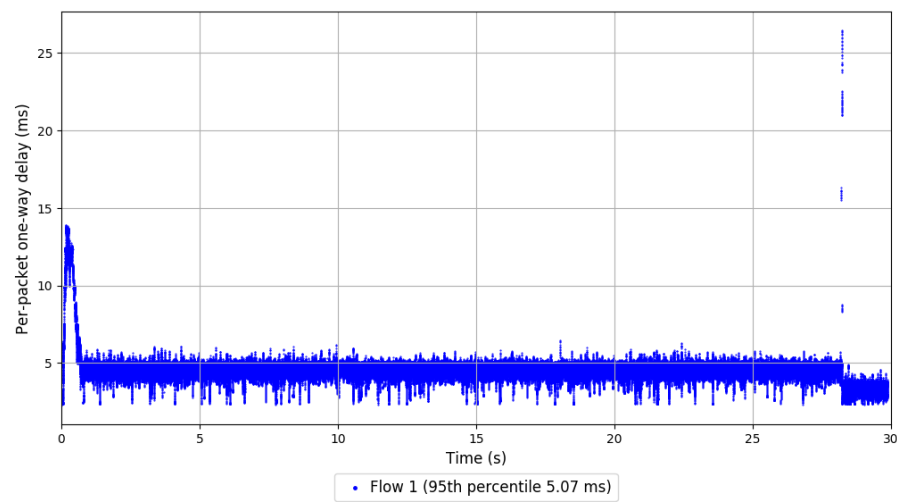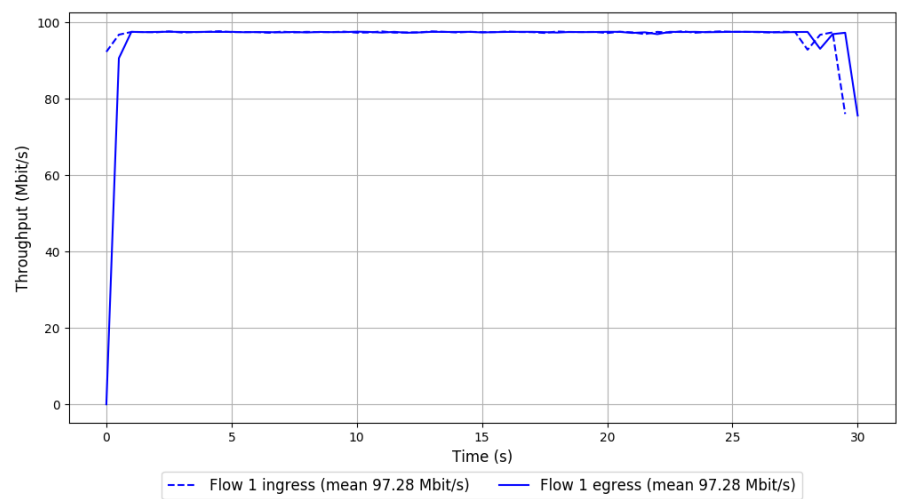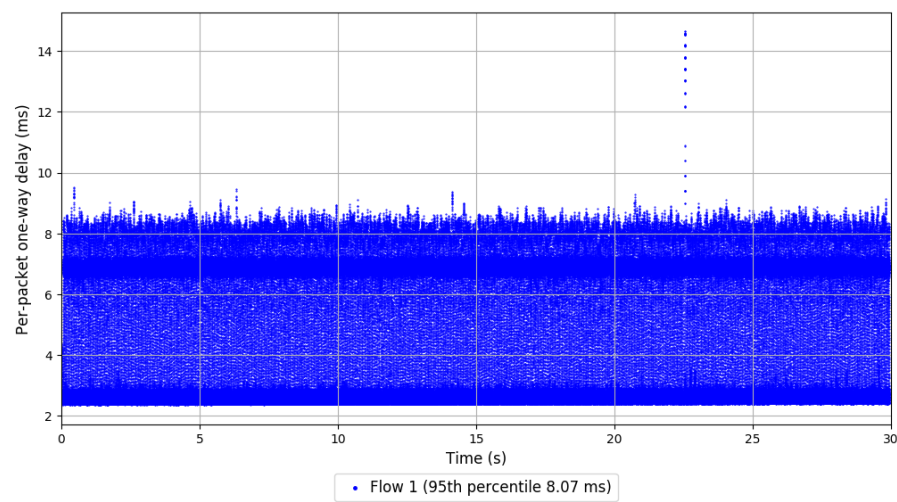
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 97.38 Mbit/s) — — — Flow 1 egress (mean 97.37 Mbit/s)

Flow 1 (95th percentile 5.08 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-10-10 01:50:05
End at: 2018-10-10 01:50:35
Local clock offset: -6.595 ms
Remote clock offset: 0.704 ms


# Below is generated by plot.py at 2018-10-10 02:10:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.28 Mbit/s
95th percentile per-packet one-way delay: 5.073 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.28 Mbit/s
95th percentile per-packet one-way delay: 5.073 ms
Loss rate: 0.02%
```

Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 97.28 Mbit/s)   Flow 1 egress (mean 97.28 Mbit/s)

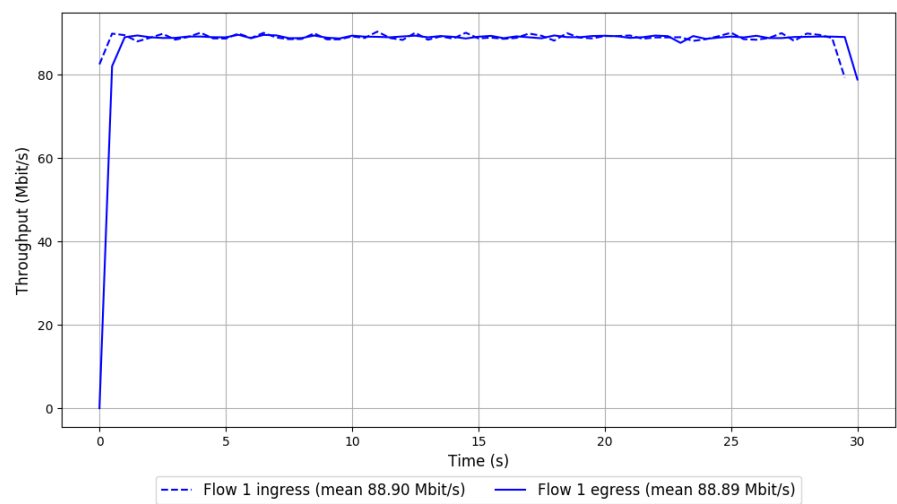Flow 1 (95th percentile 5.07 ms)

```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-10 00:36:40
End at: 2018-10-10 00:37:10
Local clock offset: -6.703 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2018-10-10 02:10:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.89 Mbit/s
95th percentile per-packet one-way delay: 8.072 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 88.89 Mbit/s
95th percentile per-packet one-way delay: 8.072 ms
Loss rate: 0.03%
```
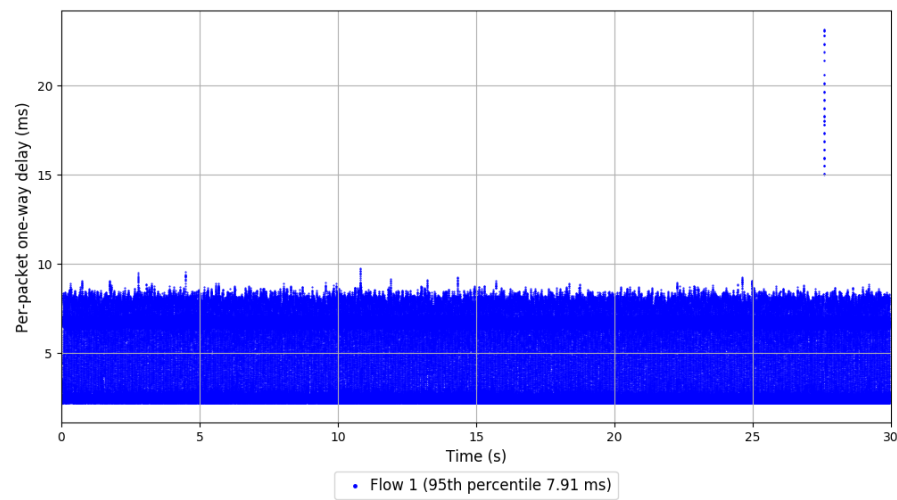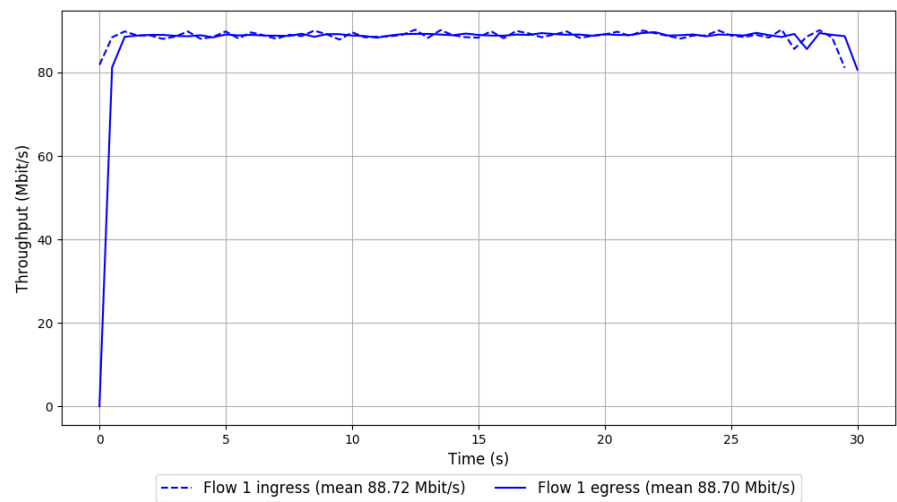
Run 1: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 88.90 Mbit/s)   Flow 1 egress (mean 88.89 Mbit/s)

• Flow 1 (95th percentile 8.07 ms)

```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-10 00:56:59
End at: 2018-10-10 00:57:29
Local clock offset: -7.21 ms
Remote clock offset: 0.256 ms


# Below is generated by plot.py at 2018-10-10 02:10:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.70 Mbit/s
95th percentile per-packet one-way delay: 7.908 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 88.70 Mbit/s
95th percentile per-packet one-way delay: 7.908 ms
Loss rate: 0.03%
```

Run 2: Report of Indigo-96d2da3 — Data Link

```
Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:17:21
End at: 2018-10-10 01:17:51
Local clock offset: -6.784 ms
Remote clock offset: 0.531 ms

# Below is generated by plot.py at 2018-10-10 02:11:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.97 Mbit/s
95th percentile per-packet one-way delay: 8.010 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 88.97 Mbit/s
95th percentile per-packet one-way delay: 8.010 ms
Loss rate: 0.02%
```
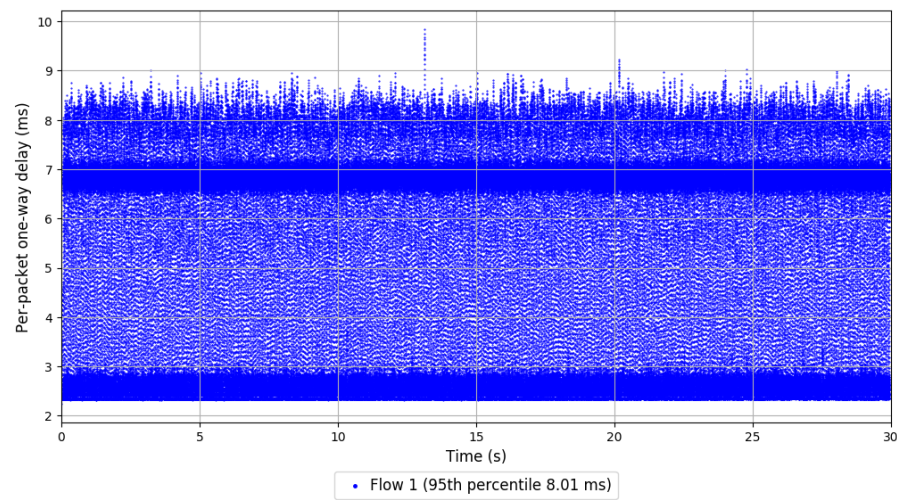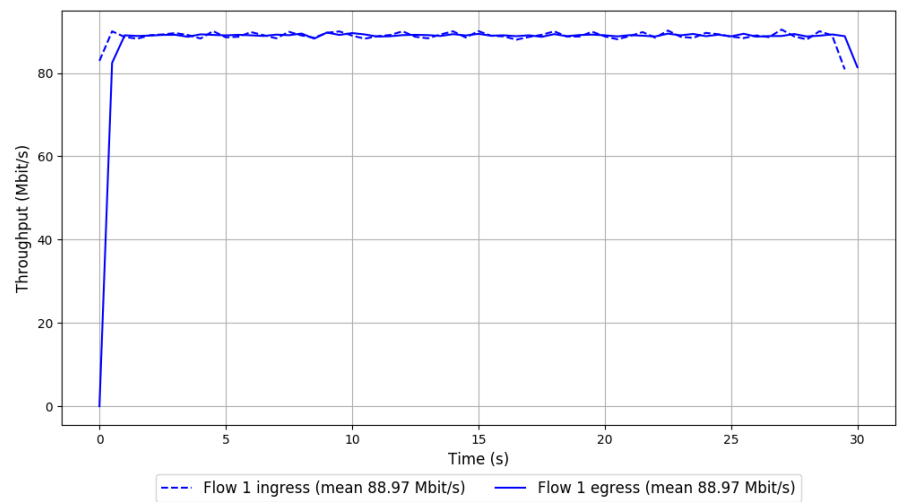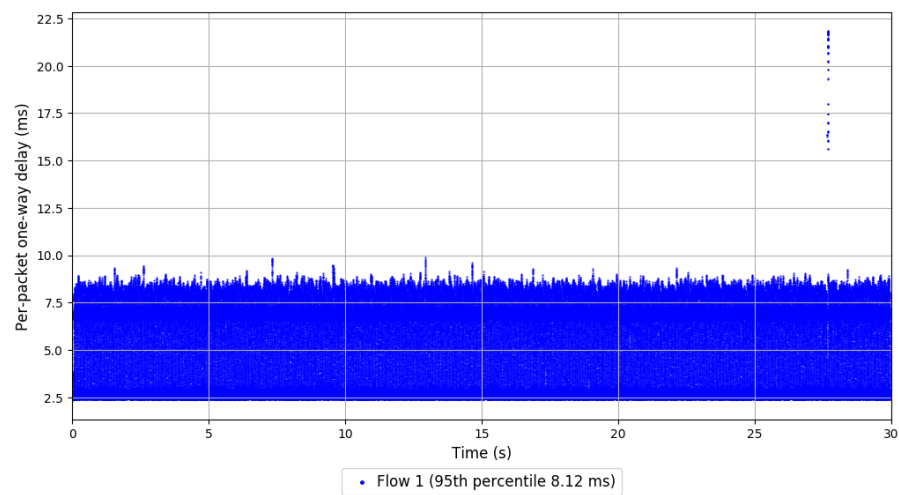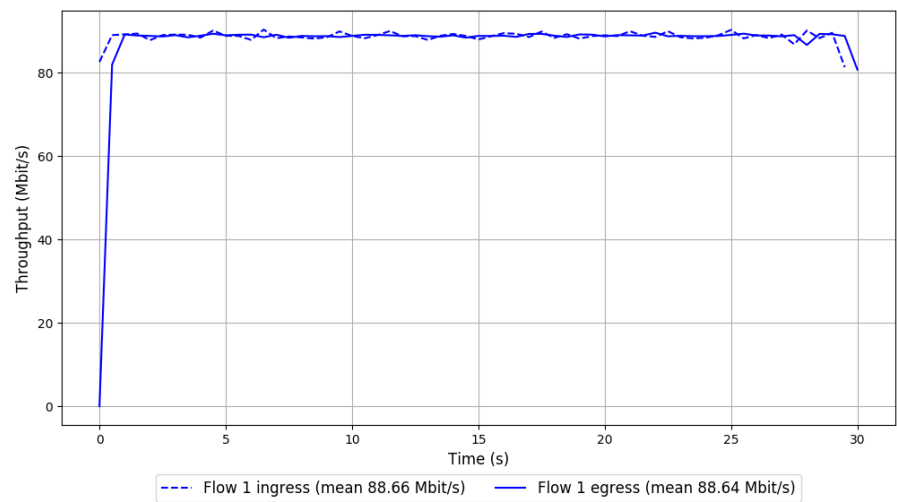
Run 3: Report of Indigo-96d2da3 — Data Link

```
Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:37:43
End at: 2018-10-10 01:38:13
Local clock offset: -6.577 ms
Remote clock offset: 0.621 ms


# Below is generated by plot.py at 2018-10-10 02:11:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.64 Mbit/s
95th percentile per-packet one-way delay: 8.117 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 88.64 Mbit/s
95th percentile per-packet one-way delay: 8.117 ms
Loss rate: 0.03%
```

Run 4: Report of Indigo-96d2da3 — Data Link

```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:58:04
End at: 2018-10-10 01:58:34
Local clock offset: -5.25 ms
Remote clock offset: 0.625 ms


# Below is generated by plot.py at 2018-10-10 02:11:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.95 Mbit/s
95th percentile per-packet one-way delay: 7.695 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 88.95 Mbit/s
95th percentile per-packet one-way delay: 7.695 ms
Loss rate: 0.03%
```
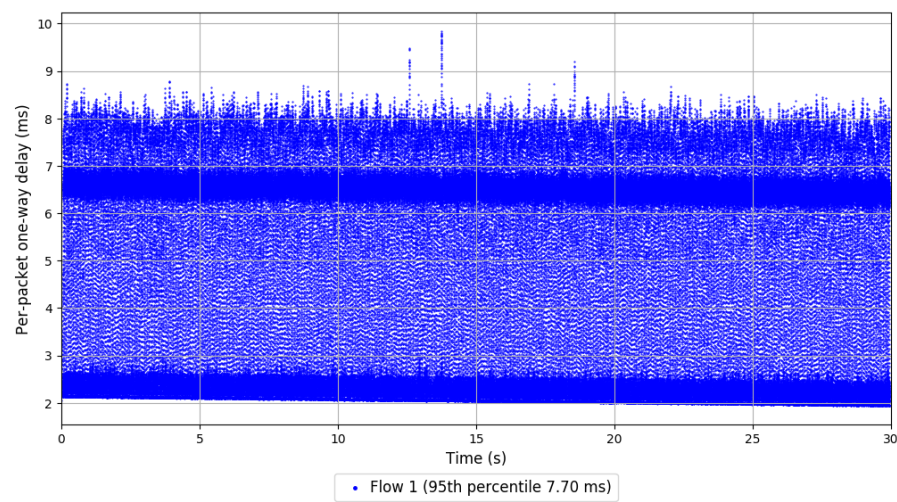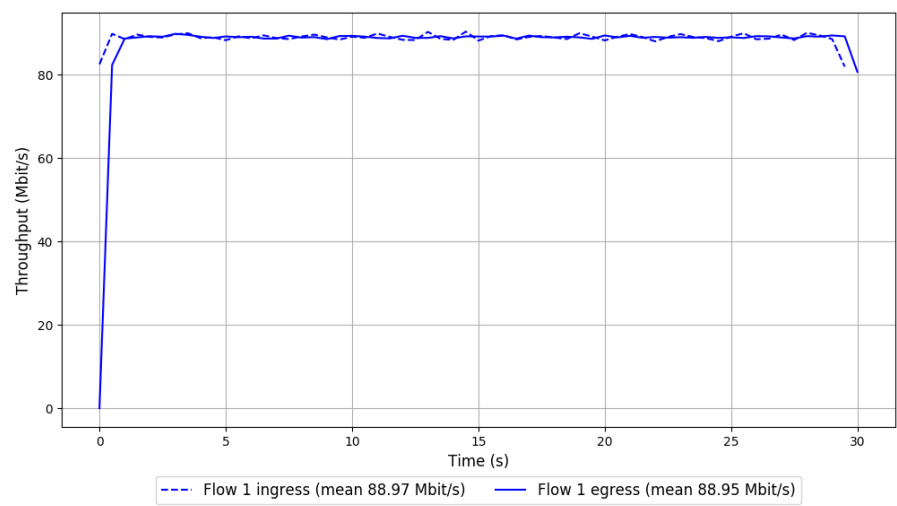
Run 5: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 88.97 Mbit/s)   Flow 1 egress (mean 88.95 Mbit/s)
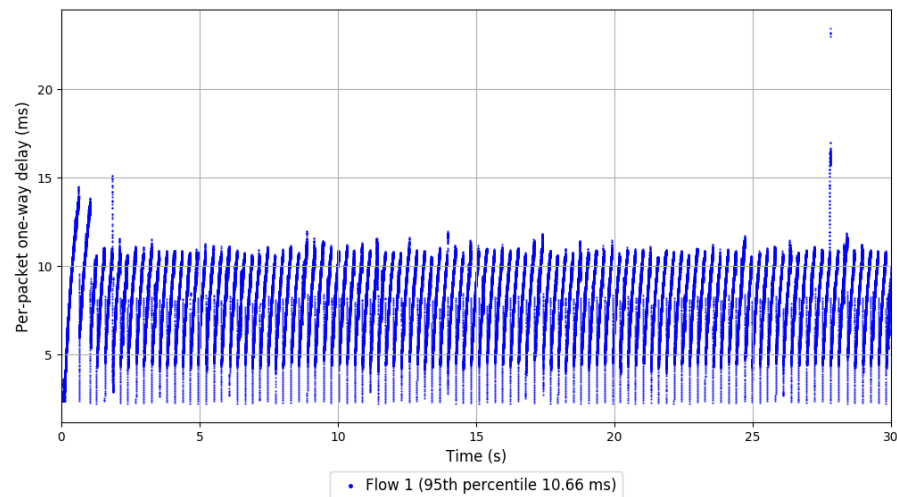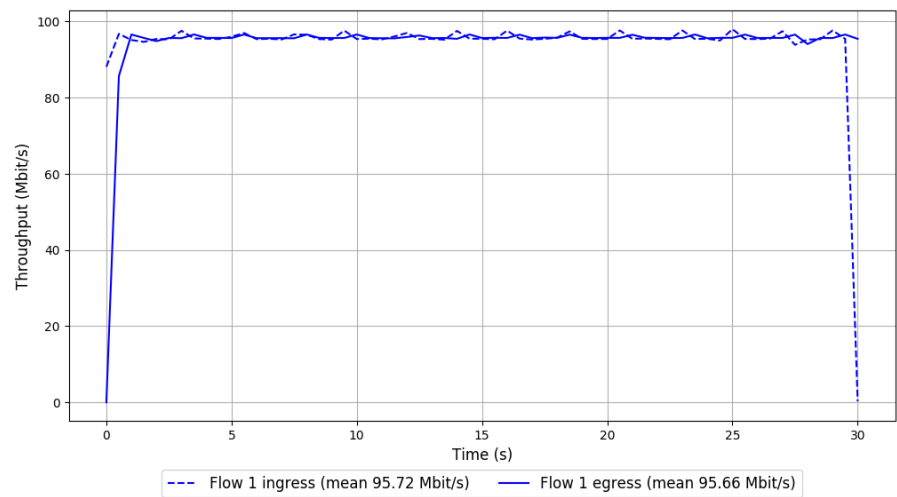

Flow 1 (95th percentile 7.70 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2018-10-10 00:24:07
End at: 2018-10-10 00:24:37
Local clock offset: -5.979 ms
Remote clock offset: -0.31 ms


# Below is generated by plot.py at 2018-10-10 02:11:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 10.660 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 10.660 ms
Loss rate: 0.08%
```

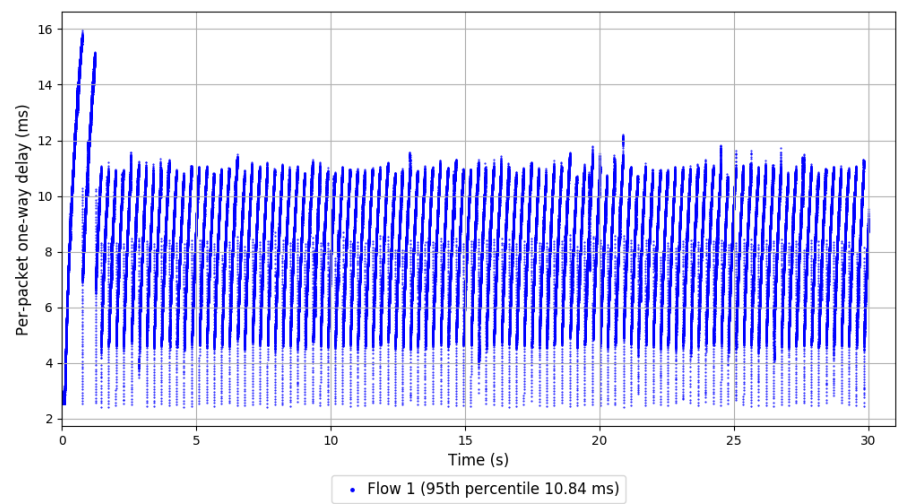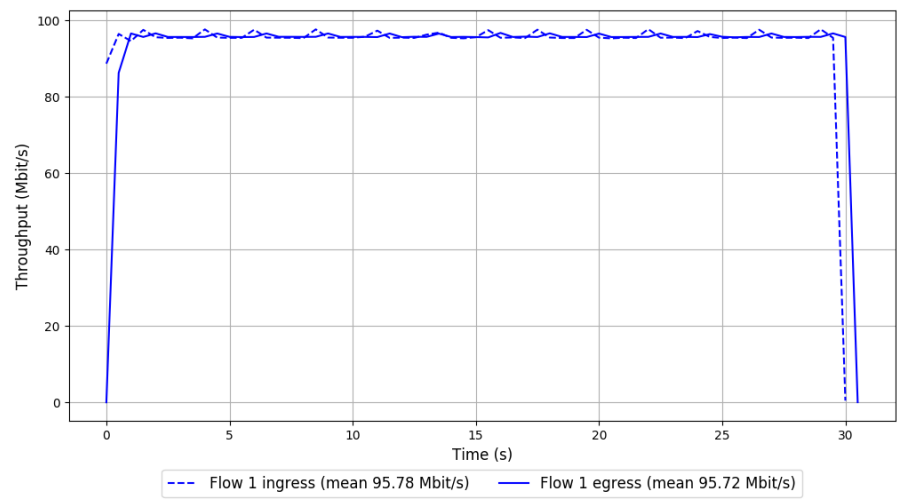Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-10 00:44:28
End at: 2018-10-10 00:44:58
Local clock offset: -6.977 ms
Remote clock offset: -0.148 ms


# Below is generated by plot.py at 2018-10-10 02:11:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 10.843 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 10.843 ms
Loss rate: 0.08%
```
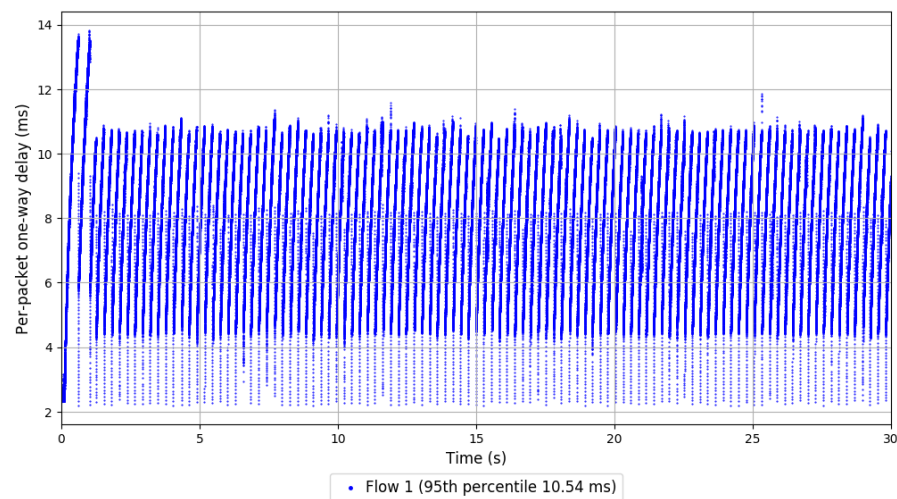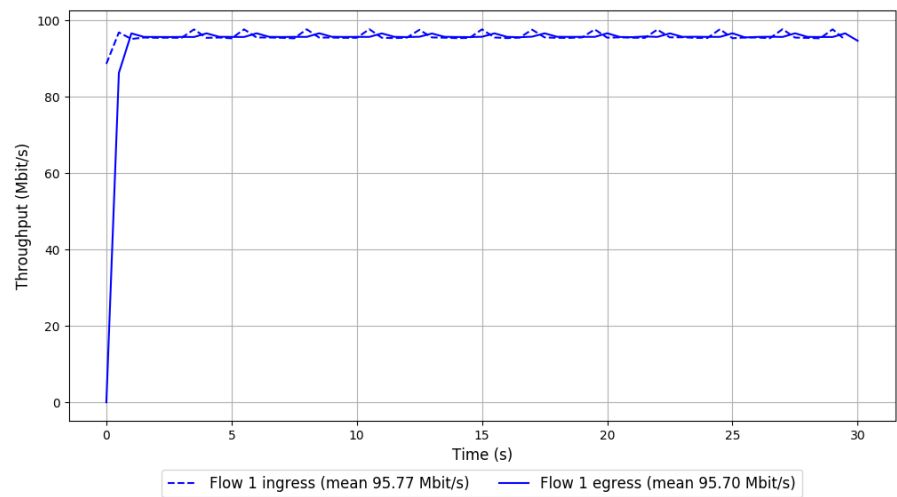
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 95.78 Mbit/s)   Flow 1 egress (mean 95.72 Mbit/s)

Flow 1 (95th percentile 10.84 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-10 01:04:48
End at: 2018-10-10 01:05:18
Local clock offset: -6.838 ms
Remote clock offset: 0.388 ms


# Below is generated by plot.py at 2018-10-10 02:11:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 10.543 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 10.543 ms
Loss rate: 0.08%
```
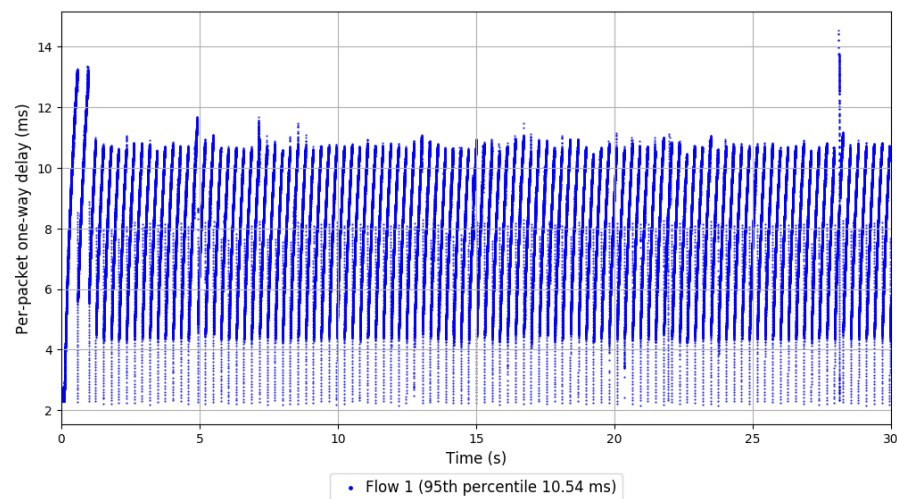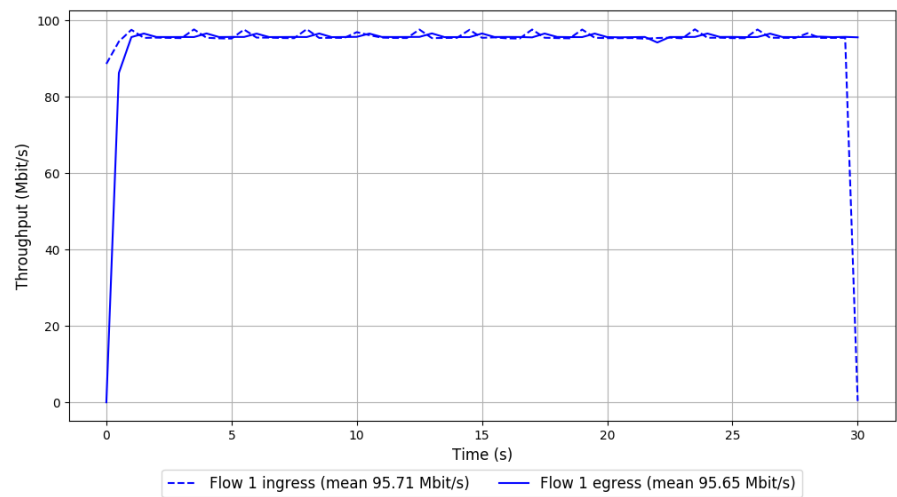
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 95.77 Mbit/s)   Flow 1 egress (mean 95.70 Mbit/s)

Flow 1 (95th percentile 10.54 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-10 01:25:10
End at: 2018-10-10 01:25:40
Local clock offset: -6.838 ms
Remote clock offset: 0.595 ms

# Below is generated by plot.py at 2018-10-10 02:11:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 10.539 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 10.539 ms
Loss rate: 0.07%
```
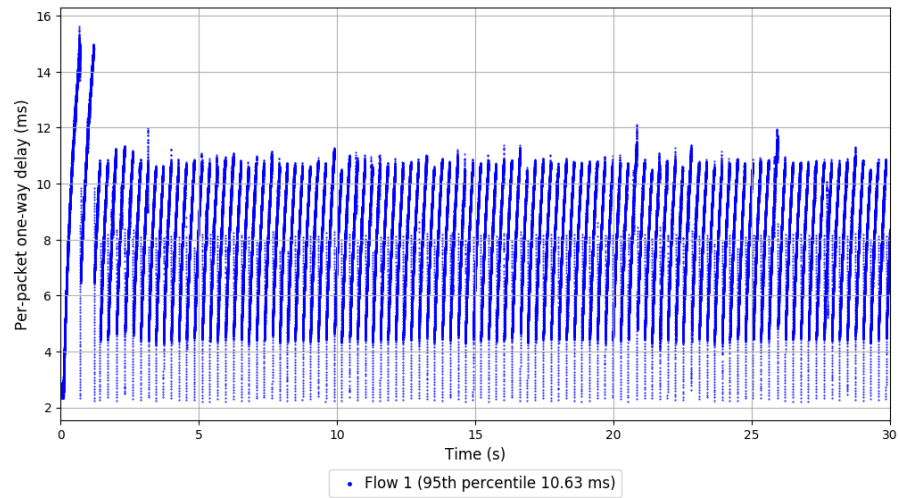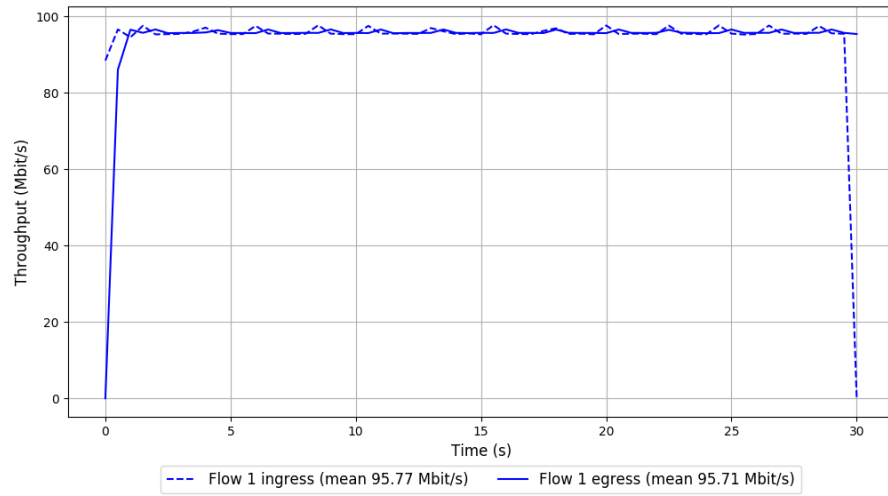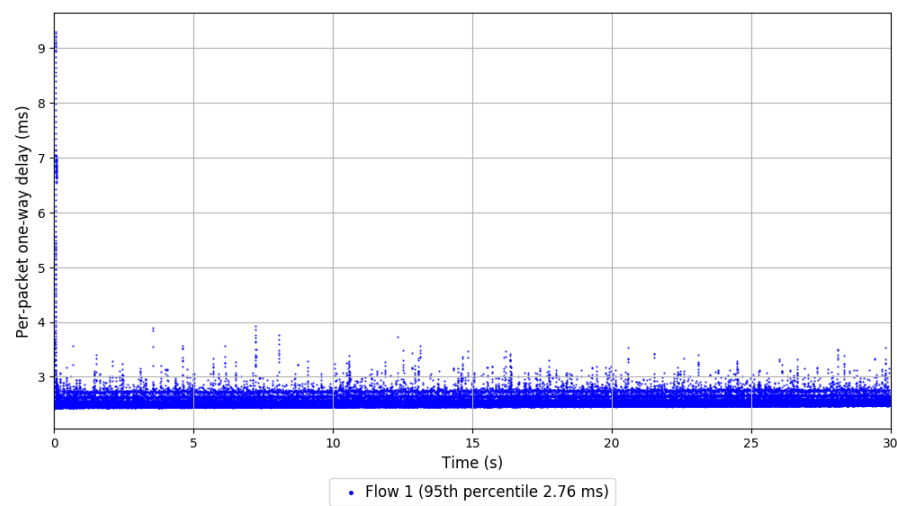
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 95.71 Mbit/s)   Flow 1 egress (mean 95.65 Mbit/s)

Flow 1 (95th percentile 10.54 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-10 01:45:31
End at: 2018-10-10 01:46:01
Local clock offset: -6.561 ms
Remote clock offset: 0.726 ms


# Below is generated by plot.py at 2018-10-10 02:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 10.632 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 10.632 ms
Loss rate: 0.08%
```

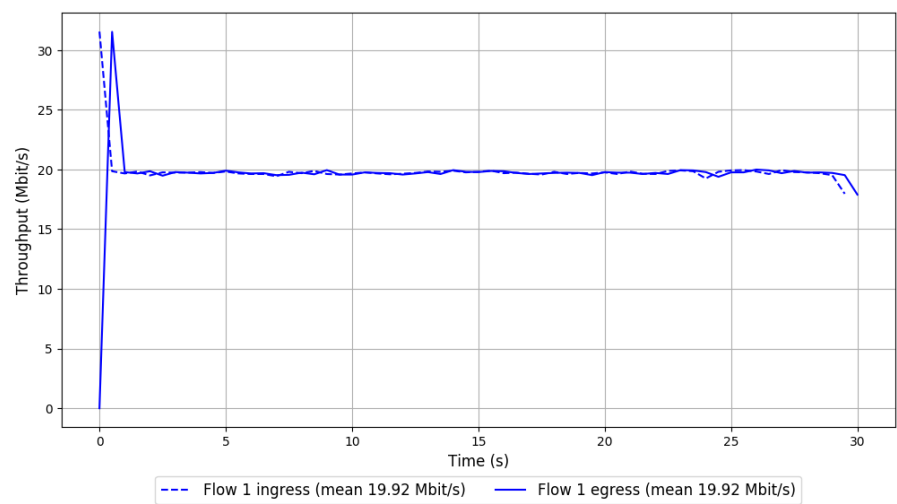## Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-10 00:29:51
End at: 2018-10-10 00:30:21
Local clock offset: -6.353 ms
Remote clock offset: -0.301 ms

# Below is generated by plot.py at 2018-10-10 02:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.92 Mbit/s
95th percentile per-packet one-way delay: 2.757 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 19.92 Mbit/s
95th percentile per-packet one-way delay: 2.757 ms
Loss rate: 0.01%
```
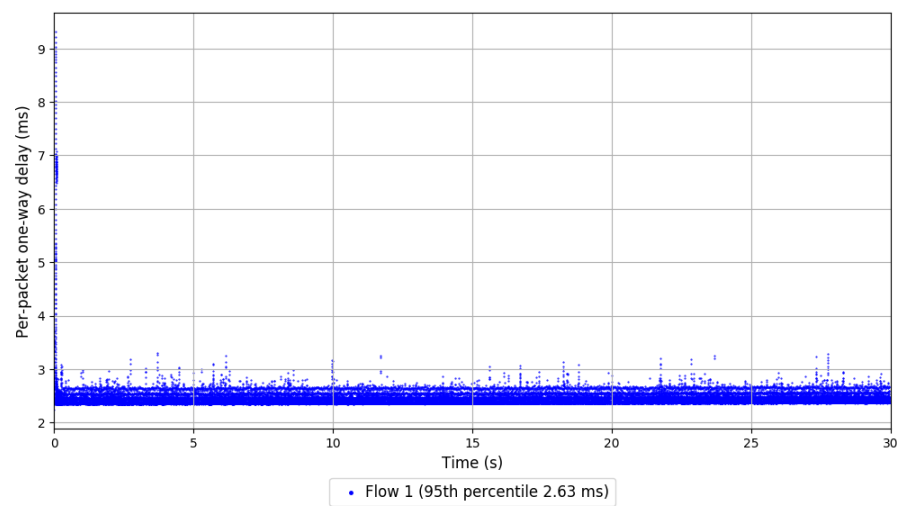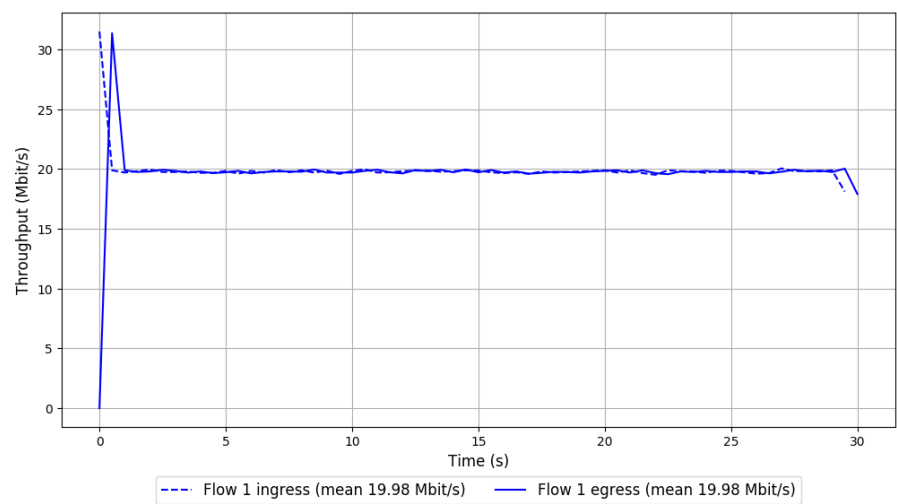
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-10 00:50:10
End at: 2018-10-10 00:50:40
Local clock offset: -7.254 ms
Remote clock offset: 0.053 ms

# Below is generated by plot.py at 2018-10-10 02:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 2.635 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 2.635 ms
Loss rate: 0.02%
```

Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-10 01:10:32
End at: 2018-10-10 01:11:02
Local clock offset: -6.751 ms
Remote clock offset: 0.381 ms

# Below is generated by plot.py at 2018-10-10 02:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.01 Mbit/s
95th percentile per-packet one-way delay: 2.708 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 20.01 Mbit/s
95th percentile per-packet one-way delay: 2.708 ms
Loss rate: 0.02%
```
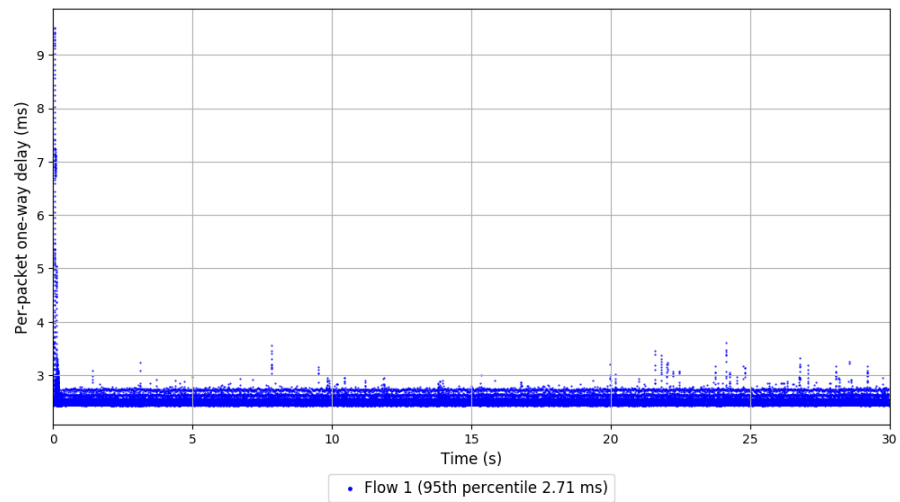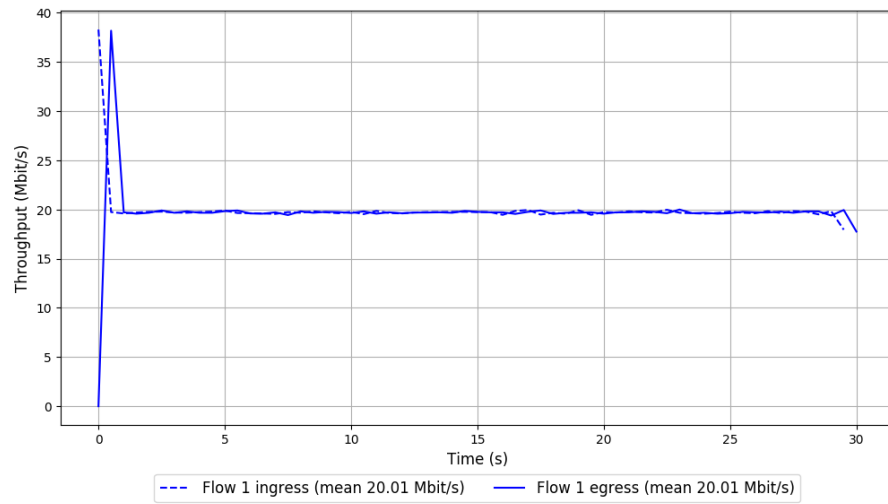
Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-10 01:30:53
End at: 2018-10-10 01:31:23
Local clock offset: -6.634 ms
Remote clock offset: 0.585 ms

# Below is generated by plot.py at 2018-10-10 02:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.96 Mbit/s
95th percentile per-packet one-way delay: 2.675 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 19.96 Mbit/s
95th percentile per-packet one-way delay: 2.675 ms
Loss rate: 0.02%
```
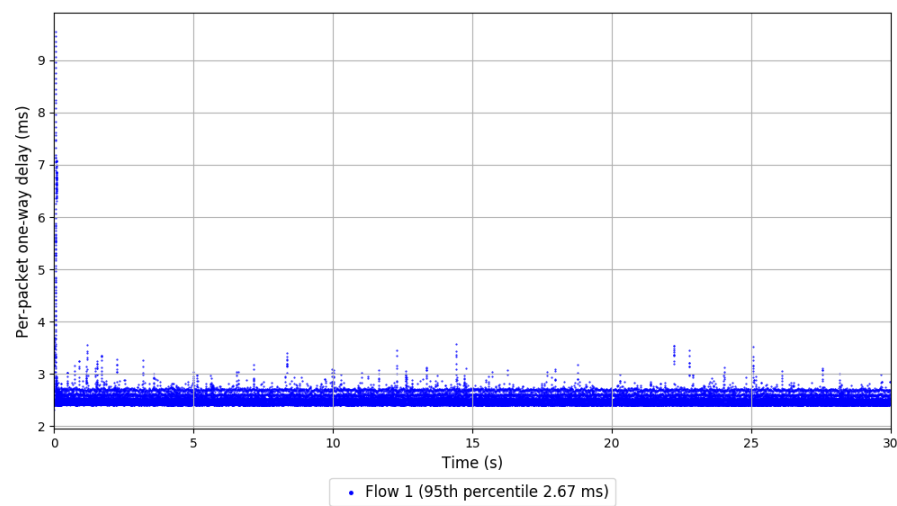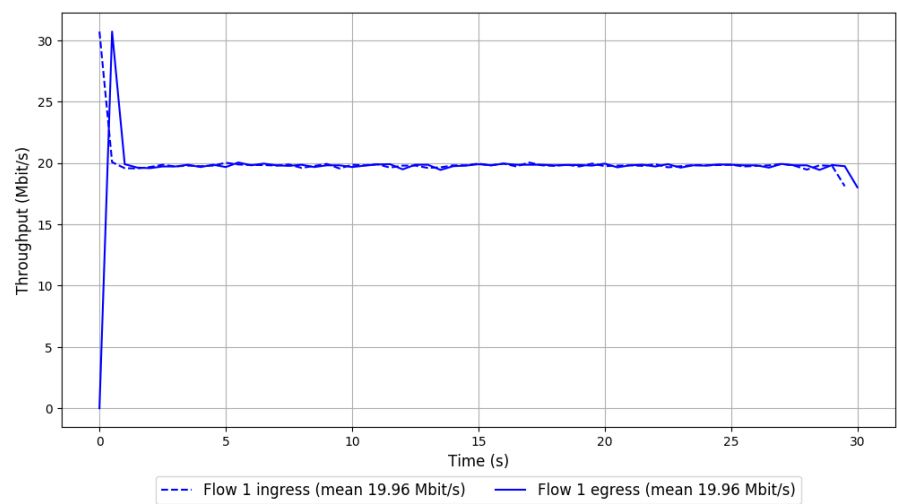
Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-10 01:51:15
End at: 2018-10-10 01:51:45
Local clock offset: -6.665 ms
Remote clock offset: 0.553 ms

# Below is generated by plot.py at 2018-10-10 02:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 2.693 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 2.693 ms
Loss rate: 0.02%
```
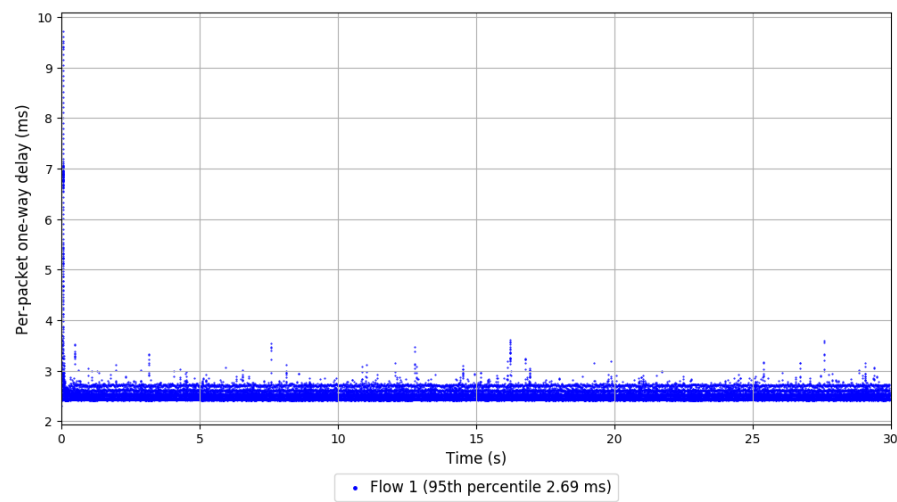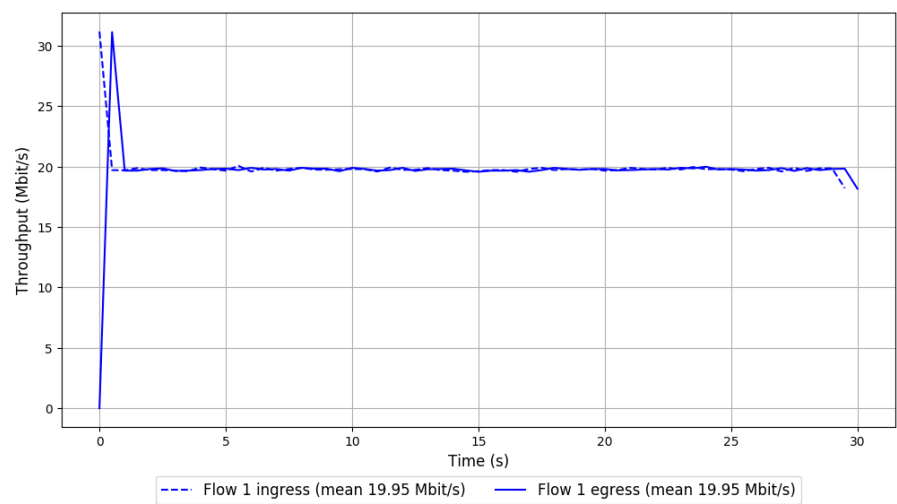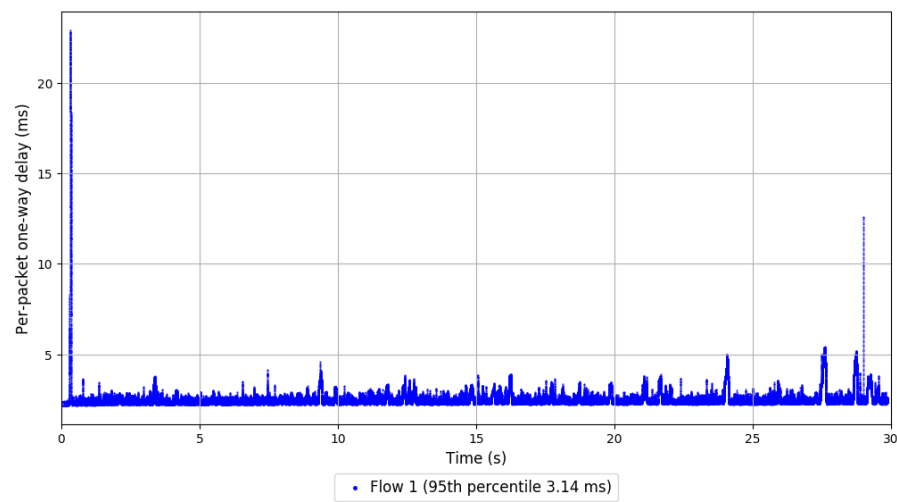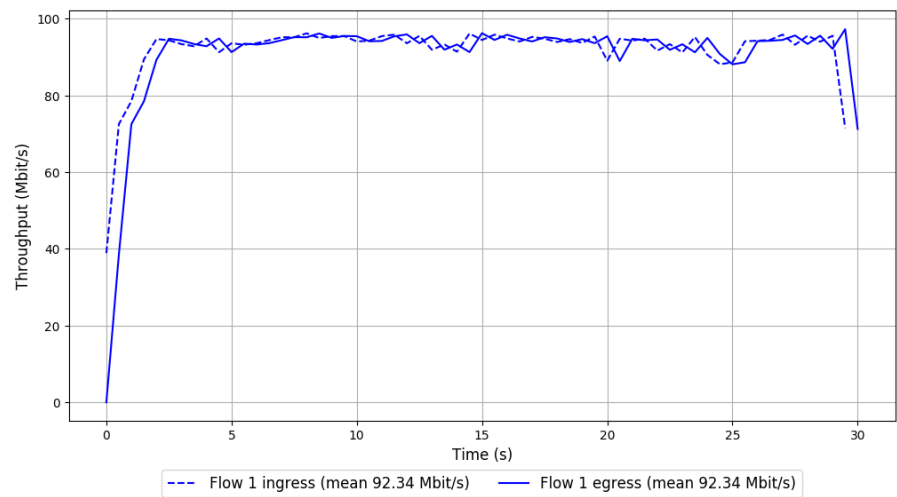
Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-10 00:34:25
End at: 2018-10-10 00:34:55
Local clock offset: -6.663 ms
Remote clock offset: -0.18 ms


# Below is generated by plot.py at 2018-10-10 02:12:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.34 Mbit/s
95th percentile per-packet one-way delay: 3.142 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 92.34 Mbit/s
95th percentile per-packet one-way delay: 3.142 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 92.34 Mbit/s) --- Flow 1 egress (mean 92.34 Mbit/s)

Flow 1 (95th percentile 3.14 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-10 00:54:44
End at: 2018-10-10 00:55:14
Local clock offset: -7.313 ms
Remote clock offset: 0.168 ms


# Below is generated by plot.py at 2018-10-10 02:12:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.66 Mbit/s
95th percentile per-packet one-way delay: 3.087 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 88.66 Mbit/s
95th percentile per-packet one-way delay: 3.087 ms
Loss rate: 0.02%
```
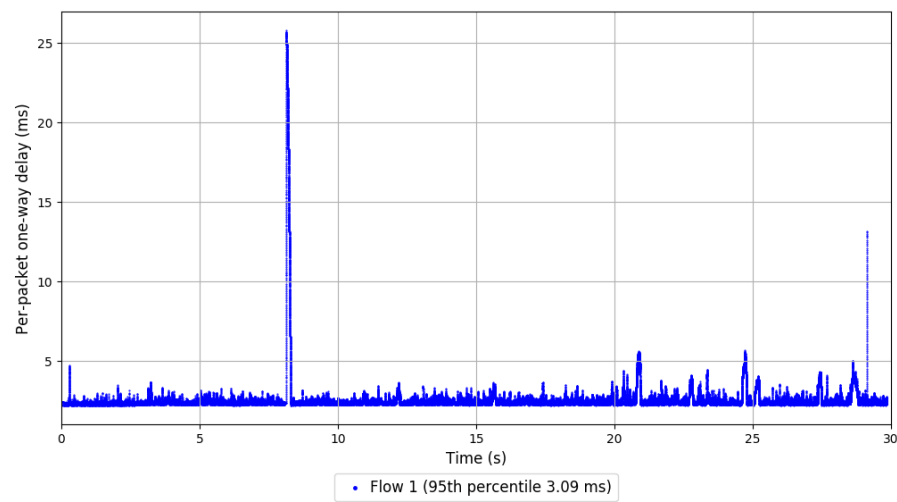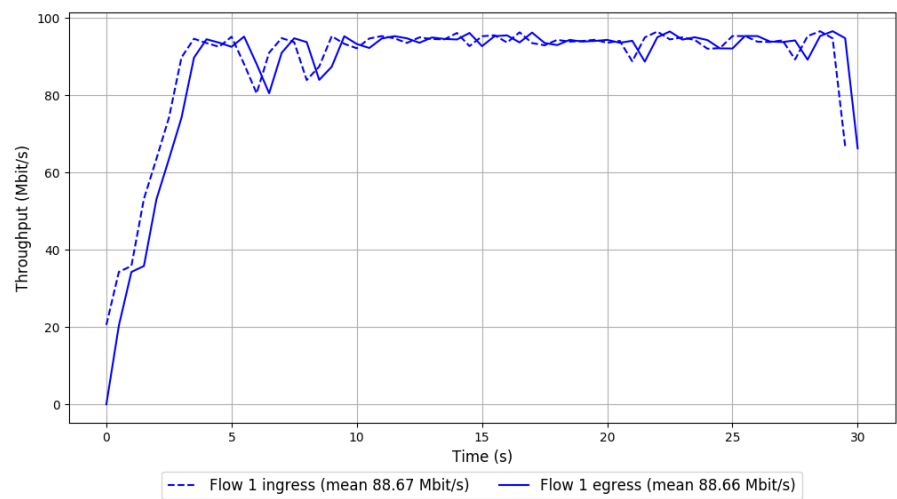
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 88.67 Mbit/s)   Flow 1 egress (mean 88.66 Mbit/s)

Flow 1 (95th percentile 3.09 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-10 01:15:06
End at: 2018-10-10 01:15:36
Local clock offset: -6.814 ms
Remote clock offset: 0.44 ms


# Below is generated by plot.py at 2018-10-10 02:12:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.24 Mbit/s
95th percentile per-packet one-way delay: 2.992 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 93.24 Mbit/s
95th percentile per-packet one-way delay: 2.992 ms
Loss rate: 0.02%
```
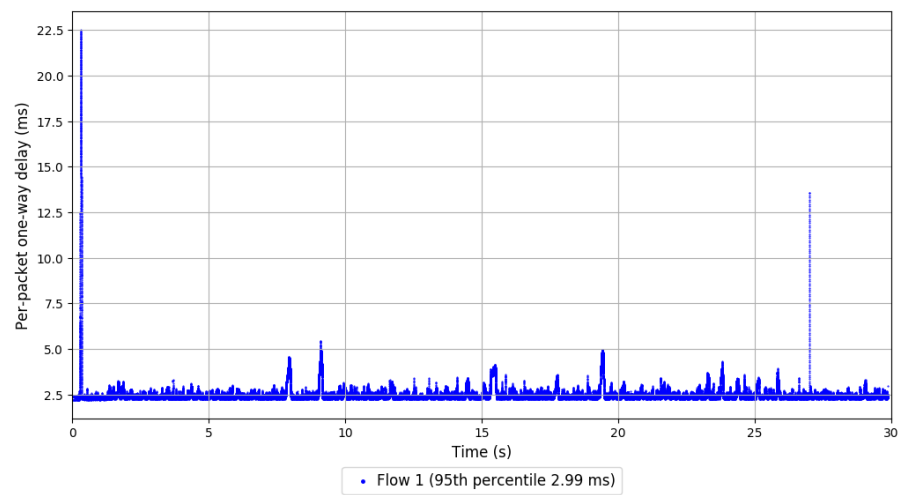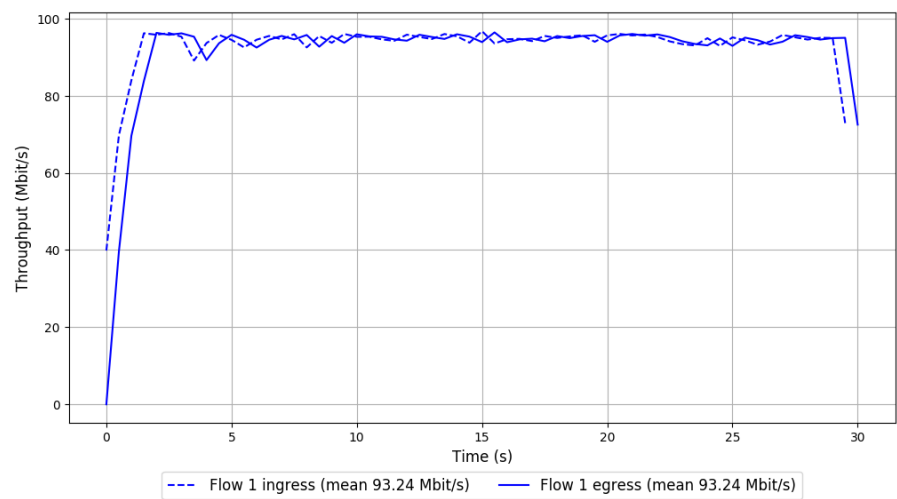
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 93.24 Mbit/s) --- Flow 1 egress (mean 93.24 Mbit/s)

• Flow 1 (95th percentile 2.99 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-10 01:35:28
End at: 2018-10-10 01:35:58
Local clock offset: -6.65 ms
Remote clock offset: 0.505 ms


# Below is generated by plot.py at 2018-10-10 02:12:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.22 Mbit/s
95th percentile per-packet one-way delay: 3.105 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 93.22 Mbit/s
95th percentile per-packet one-way delay: 3.105 ms
Loss rate: 0.01%
```
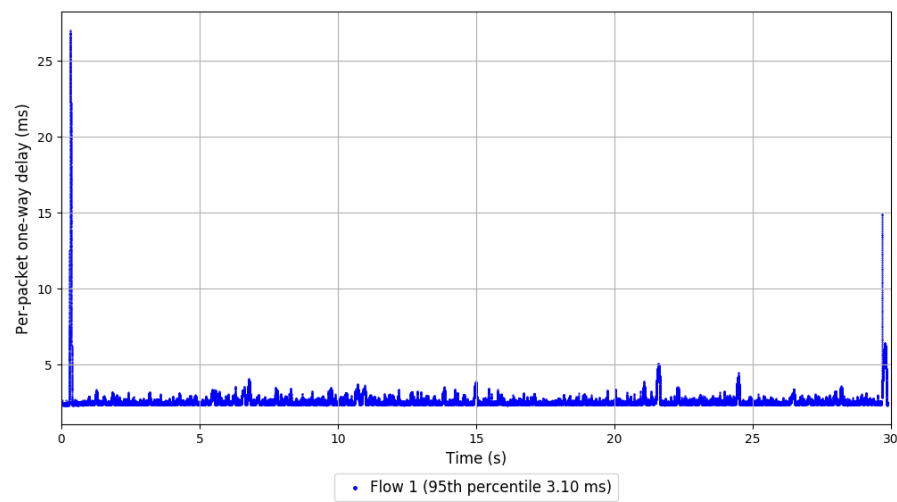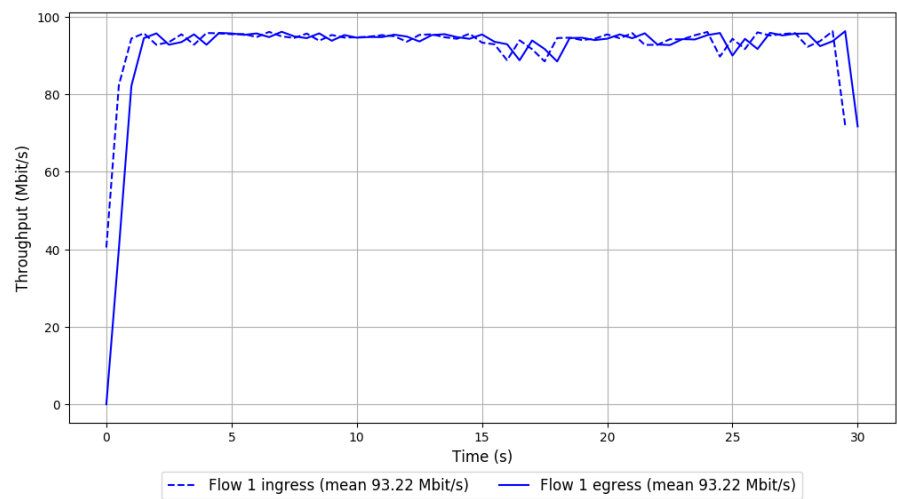
Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-10 01:55:49
End at: 2018-10-10 01:56:19
Local clock offset: -6.145 ms
Remote clock offset: 0.598 ms


# Below is generated by plot.py at 2018-10-10 02:12:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 3.058 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 3.058 ms
Loss rate: 0.02%
```
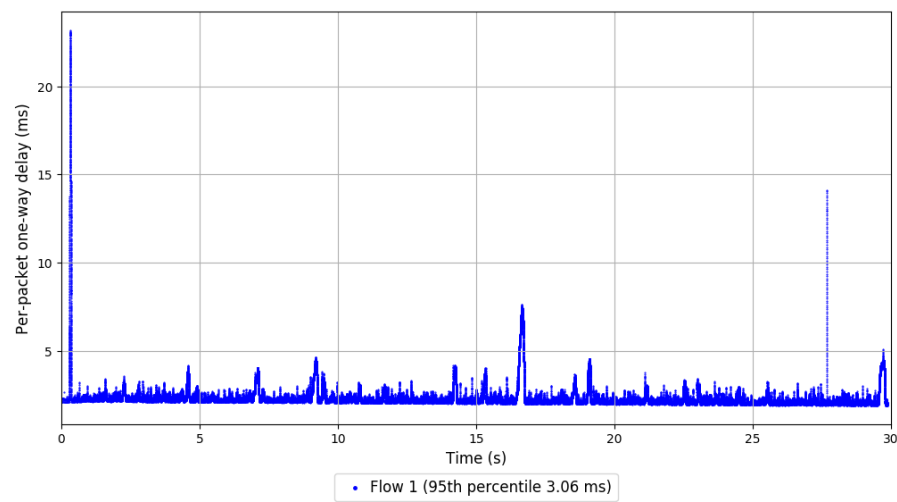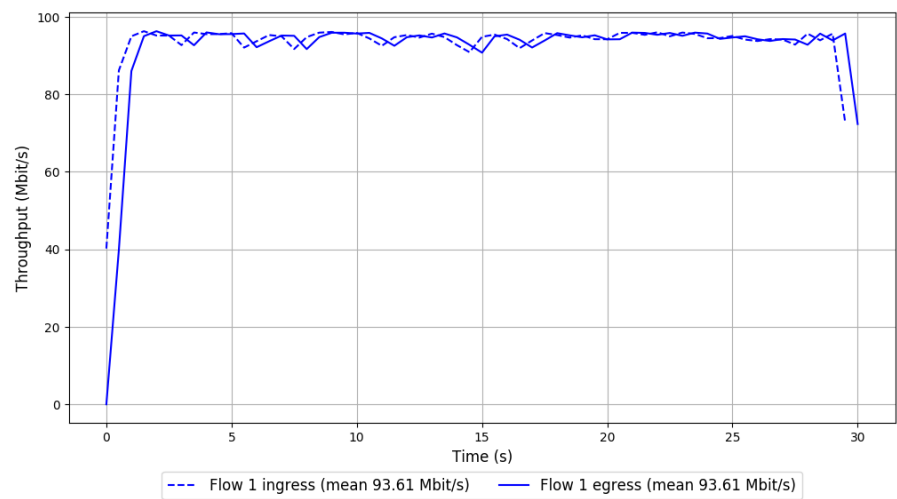
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 93.61 Mbit/s) --- Flow 1 egress (mean 93.61 Mbit/s)
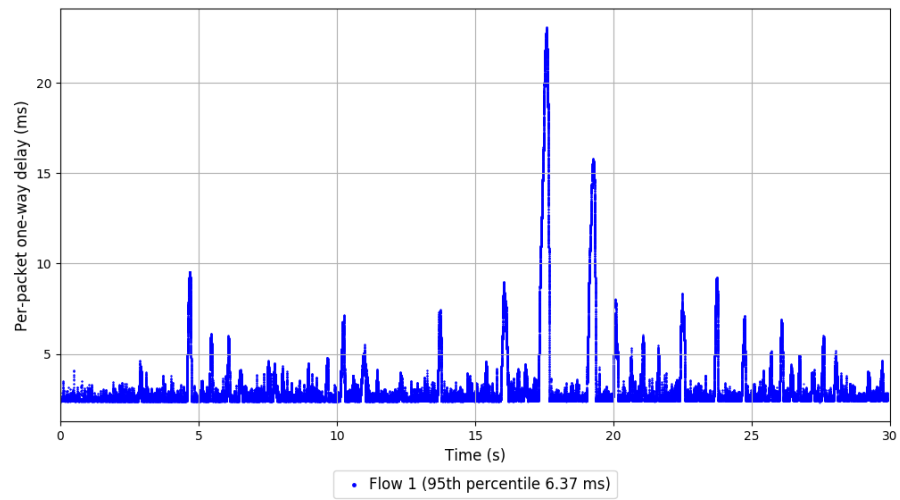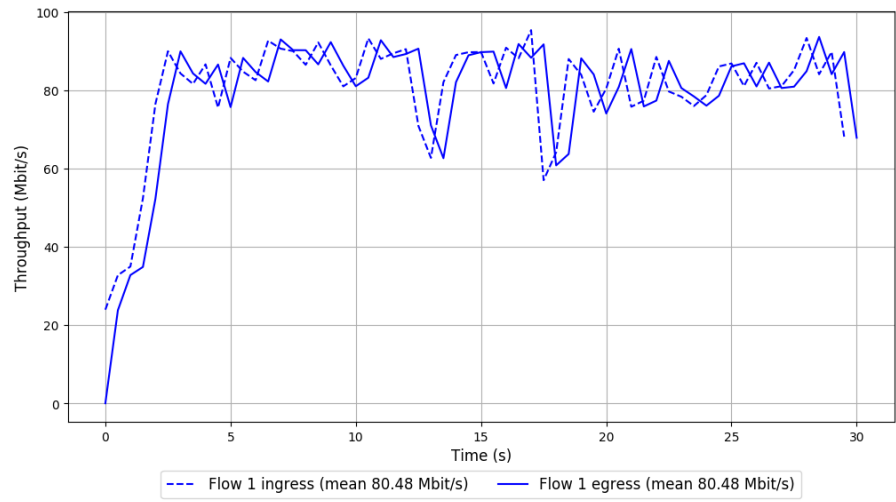

• Flow 1 (95th percentile 3.06 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-10 00:32:04
End at: 2018-10-10 00:32:34
Local clock offset: -6.503 ms
Remote clock offset: -0.27 ms


# Below is generated by plot.py at 2018-10-10 02:13:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.48 Mbit/s
95th percentile per-packet one-way delay: 6.371 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 80.48 Mbit/s
95th percentile per-packet one-way delay: 6.371 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-10 00:52:23
End at: 2018-10-10 00:52:53
Local clock offset: -7.241 ms
Remote clock offset: 0.122 ms


# Below is generated by plot.py at 2018-10-10 02:13:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.61 Mbit/s
95th percentile per-packet one-way delay: 29.775 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 84.61 Mbit/s
95th percentile per-packet one-way delay: 29.775 ms
Loss rate: 0.08%
```
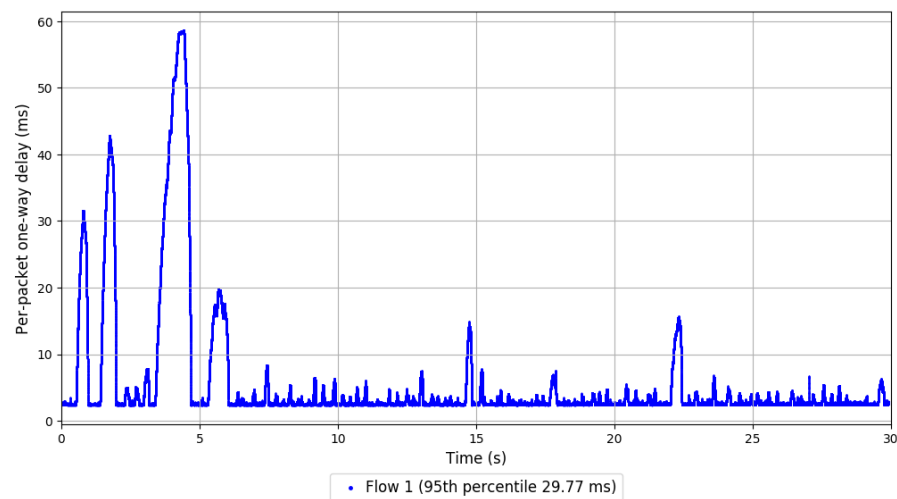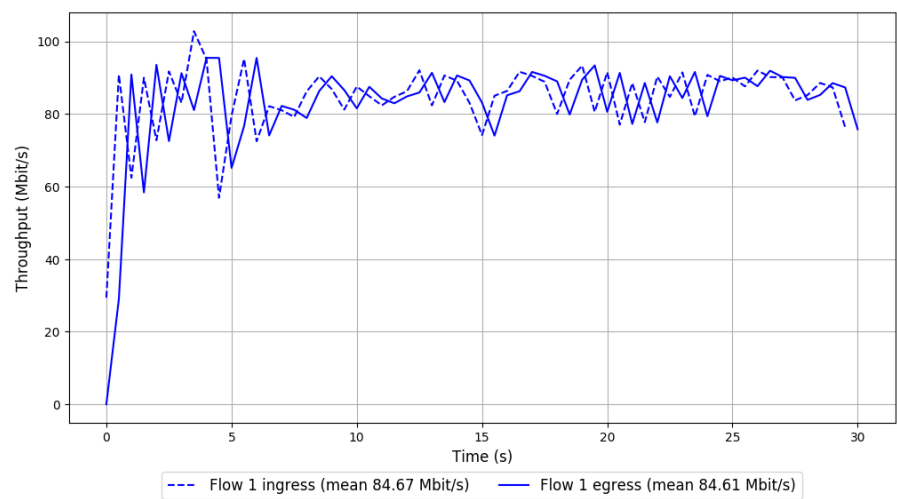
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 84.67 Mbit/s)   Flow 1 egress (mean 84.61 Mbit/s)

Flow 1 (95th percentile 29.77 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-10 01:12:45
End at: 2018-10-10 01:13:15
Local clock offset: -6.763 ms
Remote clock offset: 0.381 ms


# Below is generated by plot.py at 2018-10-10 02:13:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.09 Mbit/s
95th percentile per-packet one-way delay: 632.554 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 85.09 Mbit/s
95th percentile per-packet one-way delay: 632.554 ms
Loss rate: 0.78%
```
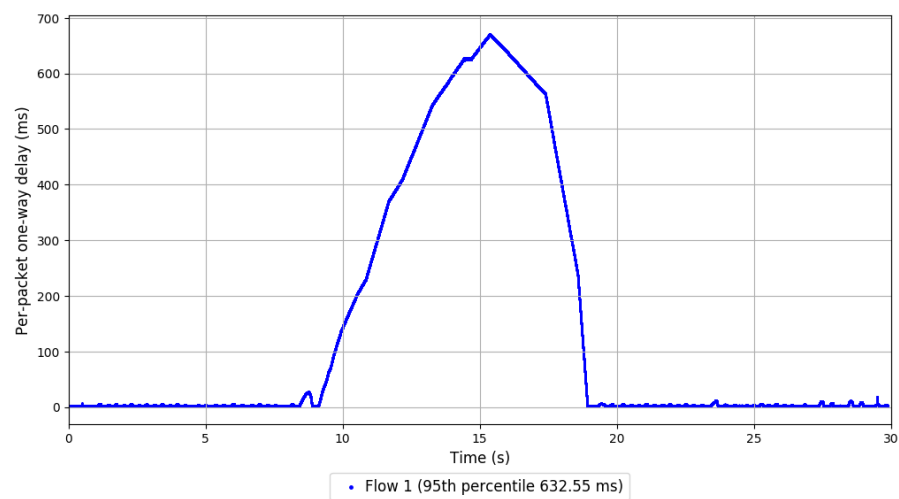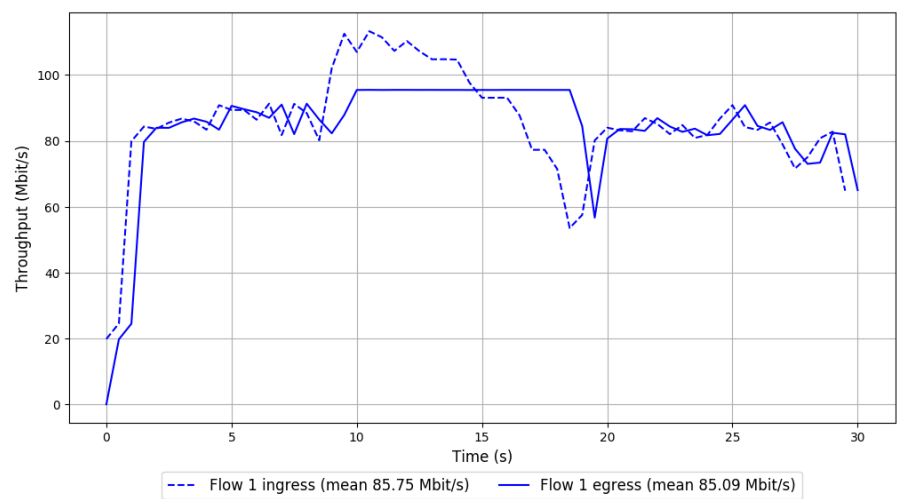
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 85.75 Mbit/s) Flow 1 egress (mean 85.09 Mbit/s)

Flow 1 (95th percentile 632.55 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-10 01:33:06
End at: 2018-10-10 01:33:37
Local clock offset: -6.621 ms
Remote clock offset: 0.576 ms


# Below is generated by plot.py at 2018-10-10 02:14:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.04 Mbit/s
95th percentile per-packet one-way delay: 24.734 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 84.04 Mbit/s
95th percentile per-packet one-way delay: 24.734 ms
Loss rate: 0.04%
```
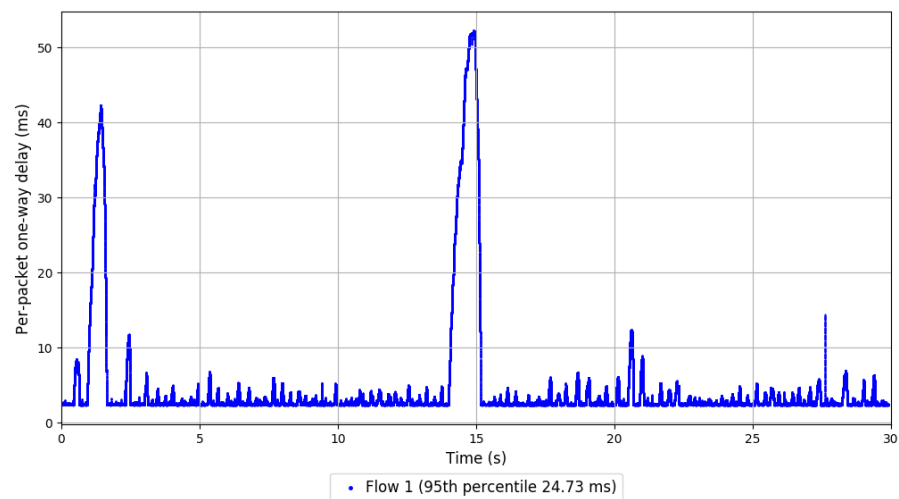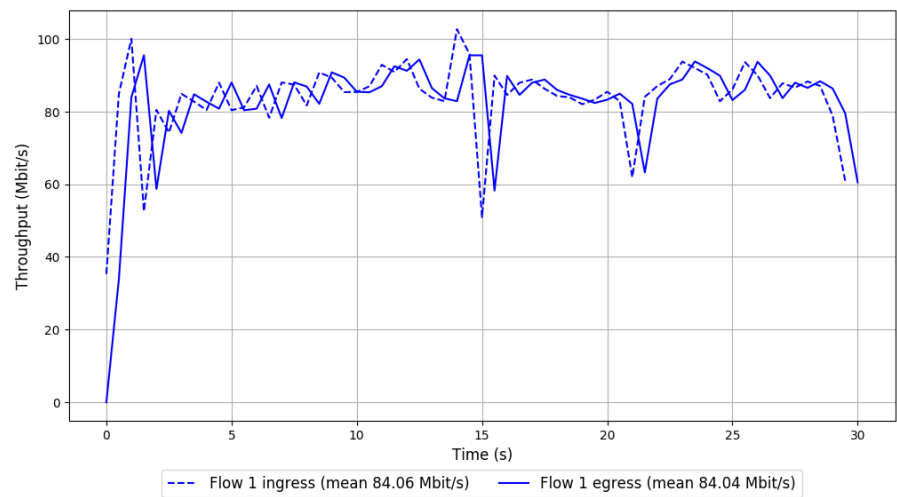
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 84.06 Mbit/s) --- Flow 1 egress (mean 84.04 Mbit/s)

• Flow 1 (95th percentile 24.73 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-10 01:53:28
End at: 2018-10-10 01:53:58
Local clock offset: -6.614 ms
Remote clock offset: 0.687 ms


# Below is generated by plot.py at 2018-10-10 02:14:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.41 Mbit/s
95th percentile per-packet one-way delay: 6.208 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 84.41 Mbit/s
95th percentile per-packet one-way delay: 6.208 ms
Loss rate: 0.03%
```
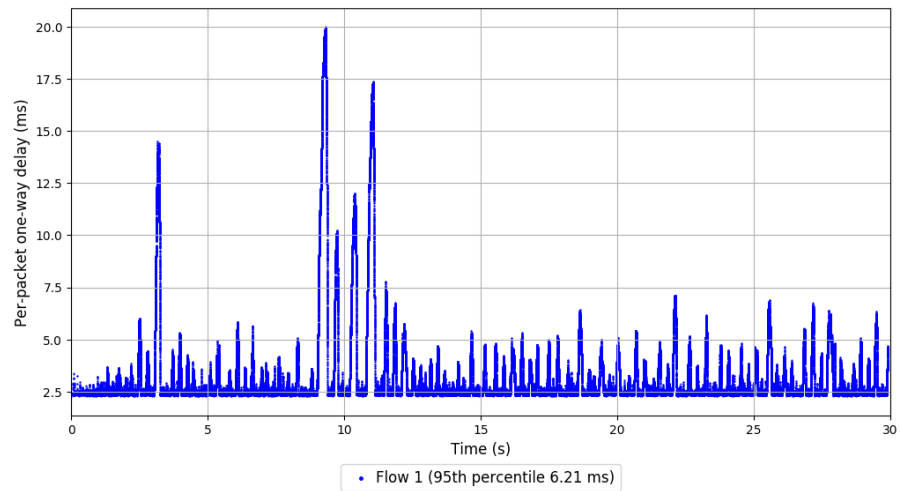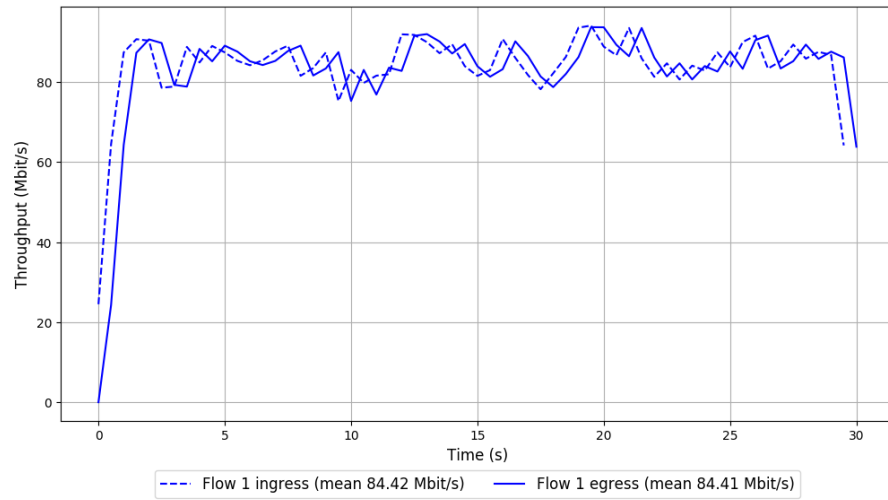
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 84.42 Mbit/s) —— Flow 1 egress (mean 84.41 Mbit/s)

• Flow 1 (95th percentile 6.21 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-10 00:38:54
End at: 2018-10-10 00:39:24
Local clock offset: -6.856 ms
Remote clock offset: -0.154 ms


# Below is generated by plot.py at 2018-10-10 02:14:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 9.599 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 9.599 ms
Loss rate: 0.02%
```
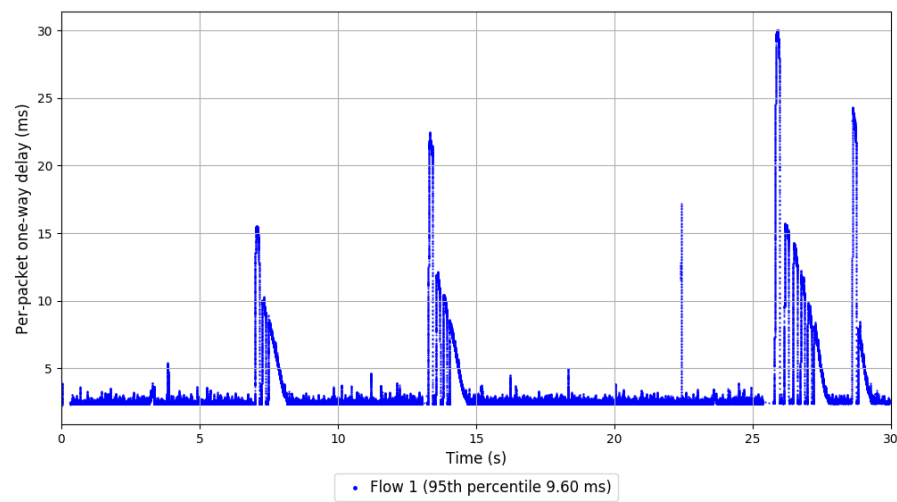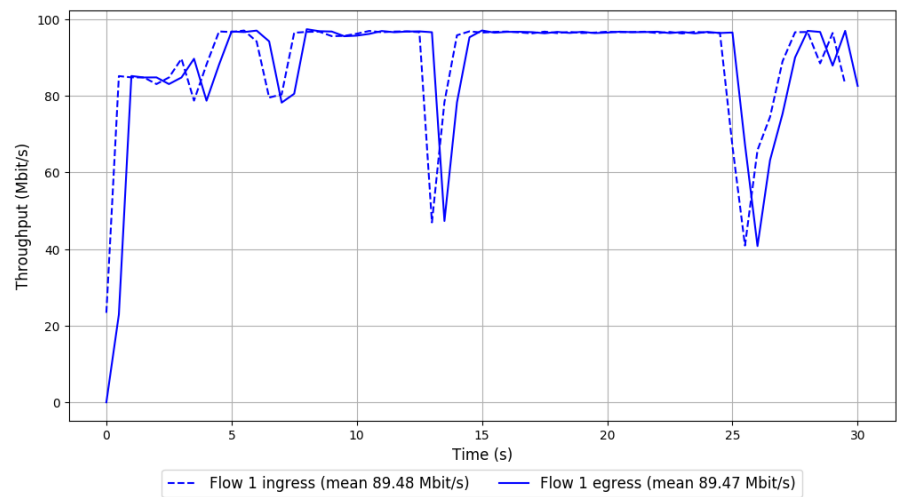
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-10 00:59:13
End at: 2018-10-10 00:59:43
Local clock offset: -7.019 ms
Remote clock offset: 0.289 ms


# Below is generated by plot.py at 2018-10-10 02:14:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.88 Mbit/s
95th percentile per-packet one-way delay: 9.968 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 90.88 Mbit/s
95th percentile per-packet one-way delay: 9.968 ms
Loss rate: 0.02%
```
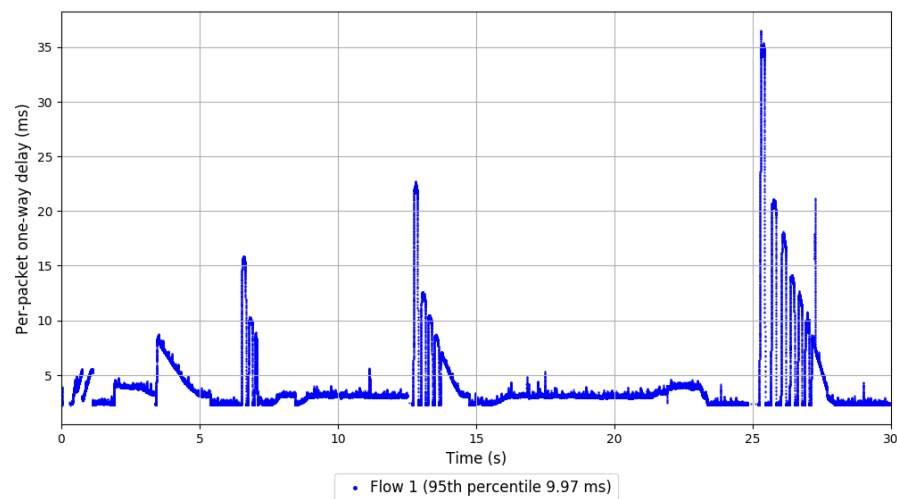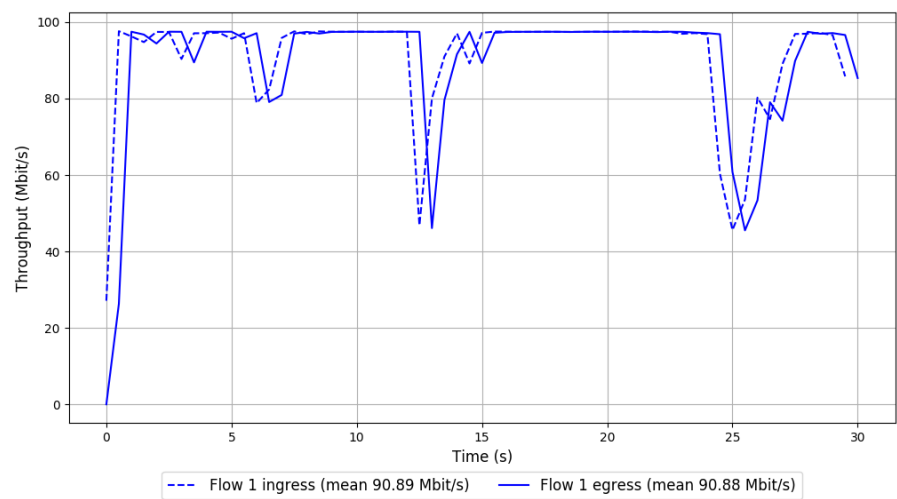
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 90.89 Mbit/s)   ——— Flow 1 egress (mean 90.88 Mbit/s)

• Flow 1 (95th percentile 9.97 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-10 01:19:35
End at: 2018-10-10 01:20:05
Local clock offset: -6.808 ms
Remote clock offset: 0.495 ms


# Below is generated by plot.py at 2018-10-10 02:14:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.55 Mbit/s
95th percentile per-packet one-way delay: 8.872 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 91.55 Mbit/s
95th percentile per-packet one-way delay: 8.872 ms
Loss rate: 0.02%
```
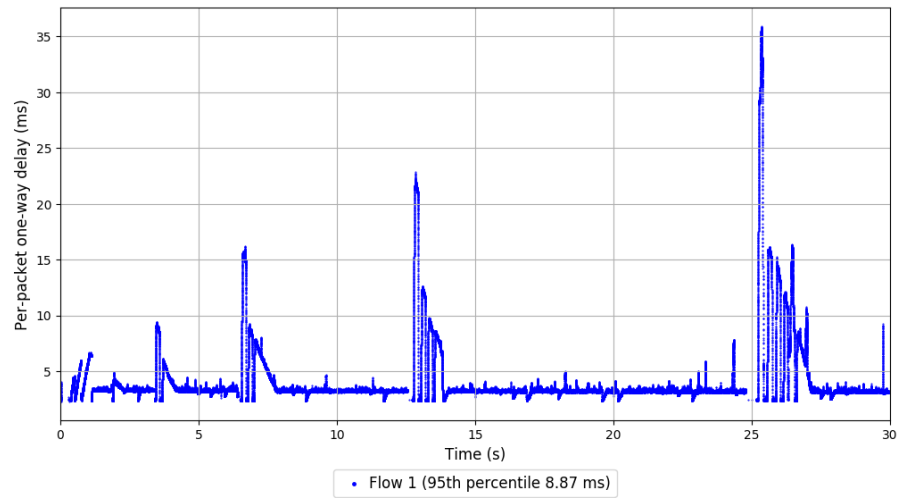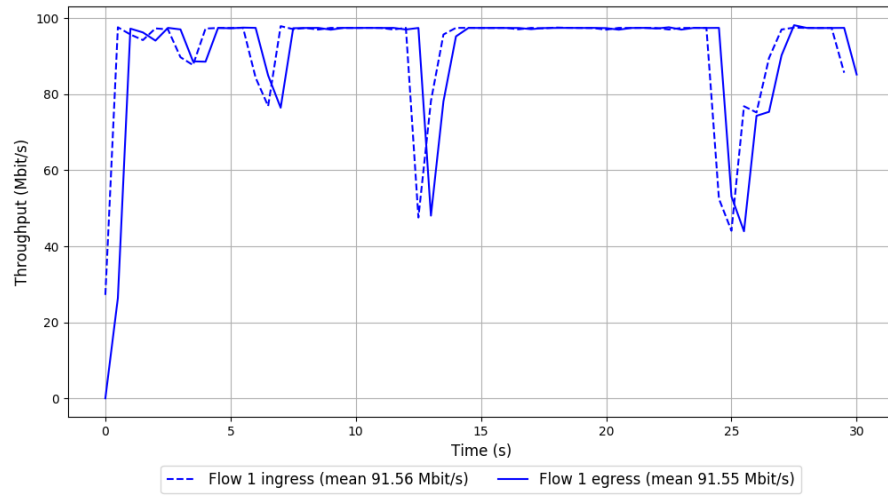
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 91.56 Mbit/s)   Flow 1 egress (mean 91.55 Mbit/s)

Flow 1 (95th percentile 8.87 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-10 01:39:56
End at: 2018-10-10 01:40:26
Local clock offset: -6.574 ms
Remote clock offset: 0.624 ms


# Below is generated by plot.py at 2018-10-10 02:14:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.69 Mbit/s
95th percentile per-packet one-way delay: 9.220 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 89.69 Mbit/s
95th percentile per-packet one-way delay: 9.220 ms
Loss rate: 0.02%
```
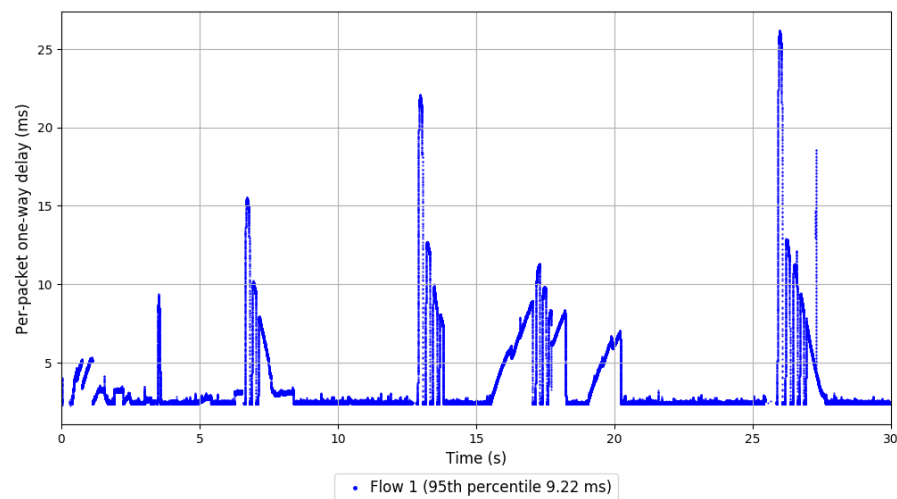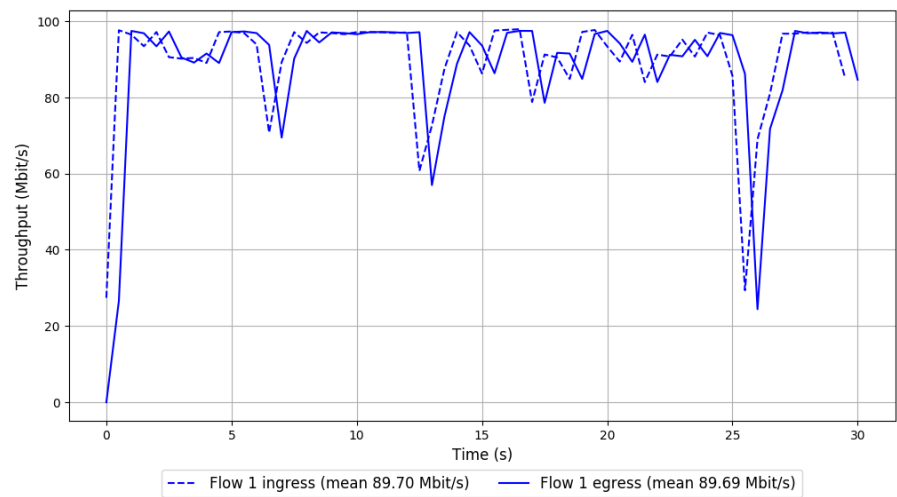
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 89.70 Mbit/s)   Flow 1 egress (mean 89.69 Mbit/s)

Flow 1 (95th percentile 9.22 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-10 02:00:18
End at: 2018-10-10 02:00:48
Local clock offset: -4.364 ms
Remote clock offset: 0.686 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 8.838 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 8.838 ms
Loss rate: 0.03%
```
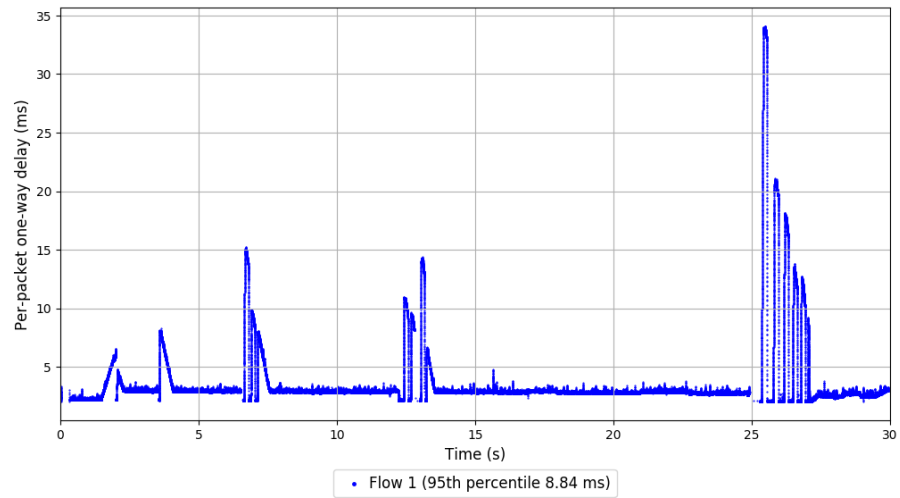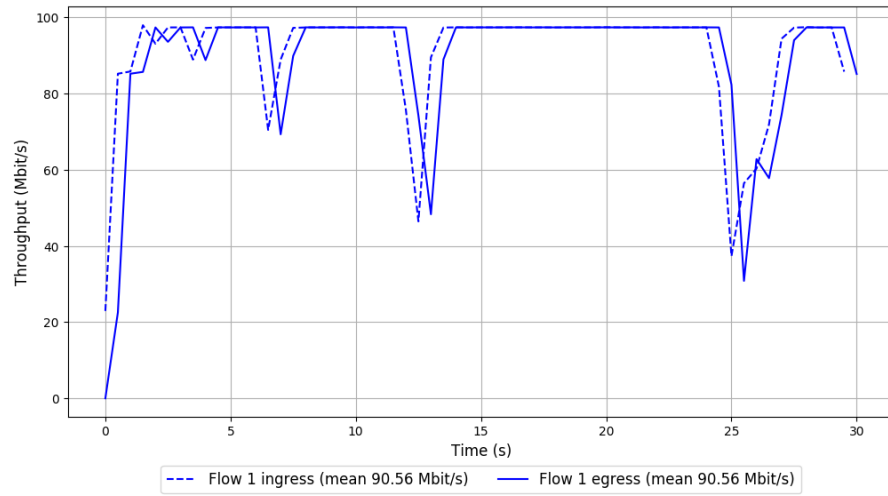
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 90.56 Mbit/s)   Flow 1 egress (mean 90.56 Mbit/s)

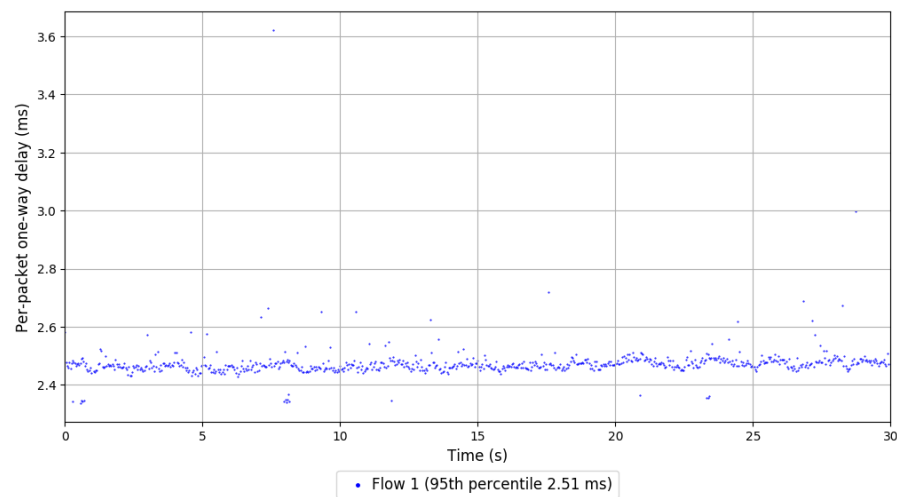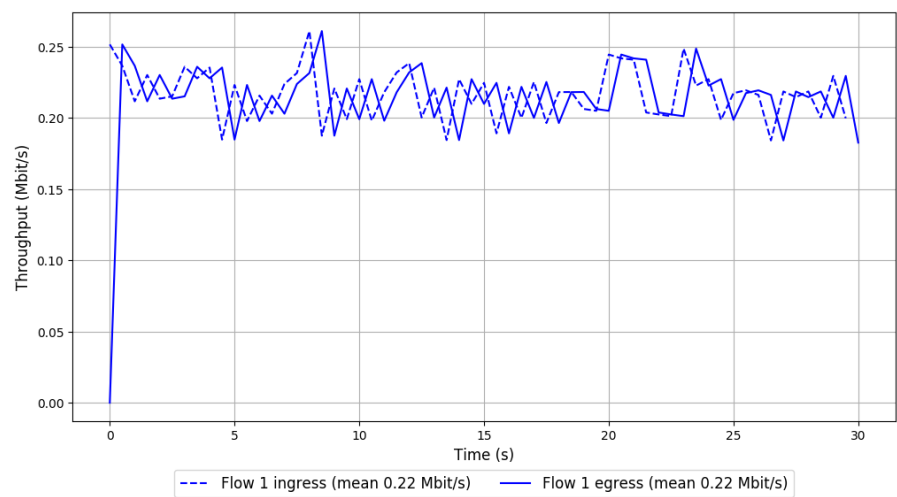Flow 1 (95th percentile 8.84 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-10-10 00:42:14
End at: 2018-10-10 00:42:44
Local clock offset: -6.933 ms
Remote clock offset: -0.134 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.512 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.512 ms
Loss rate: 0.13%
```
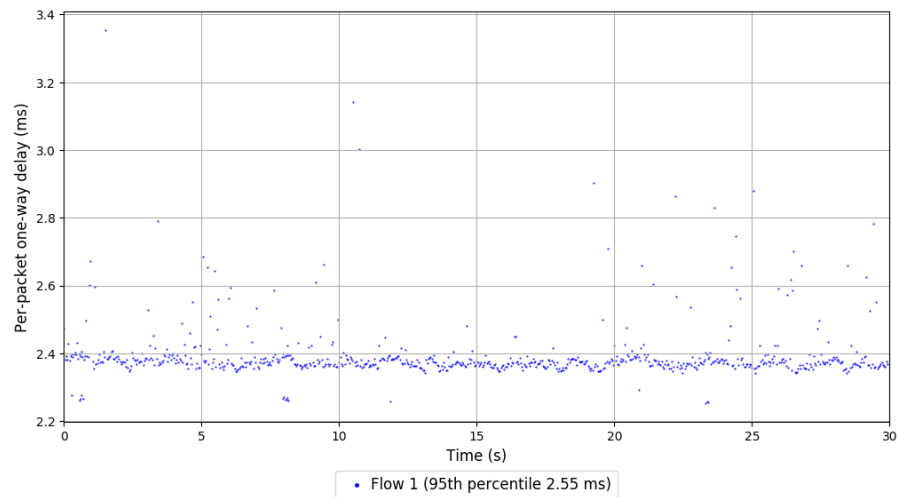
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) — — — Flow 1 egress (mean 0.22 Mbit/s)

• Flow 1 (95th percentile 2.51 ms)

```
Run 2: Statistics of SCReAM

Start at: 2018-10-10 01:02:33
End at: 2018-10-10 01:03:03
Local clock offset: -6.875 ms
Remote clock offset: 0.306 ms

# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.551 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.551 ms
Loss rate: 0.13%
```
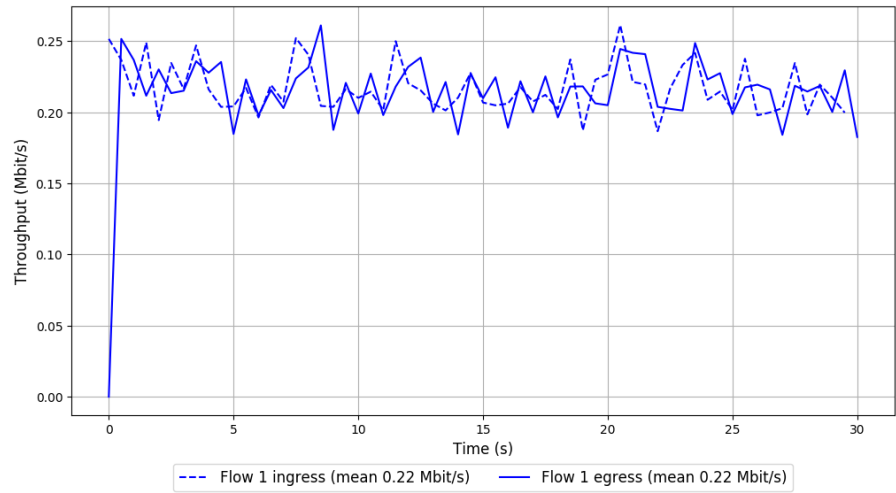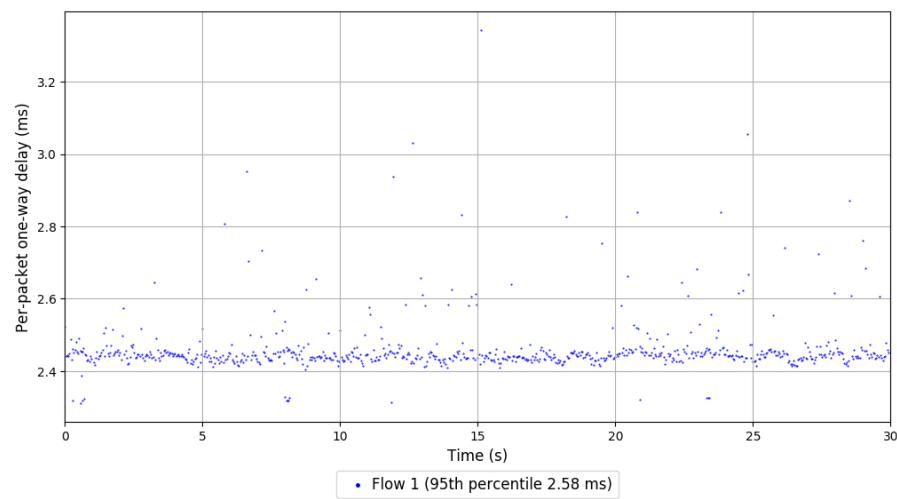
Run 2: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s)   Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 2.55 ms)

```
Run 3: Statistics of SCReAM

Start at: 2018-10-10 01:22:55
End at: 2018-10-10 01:23:25
Local clock offset: -6.804 ms
Remote clock offset: 0.485 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.583 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.583 ms
Loss rate: 0.13%
```
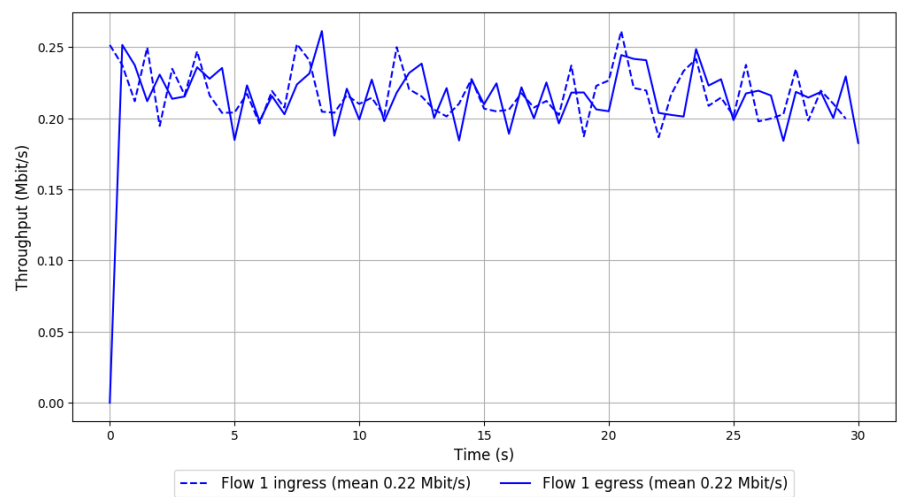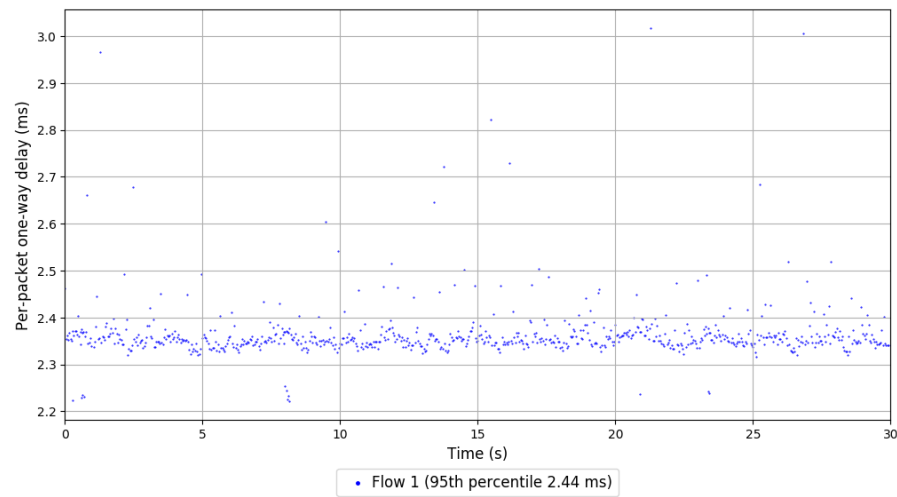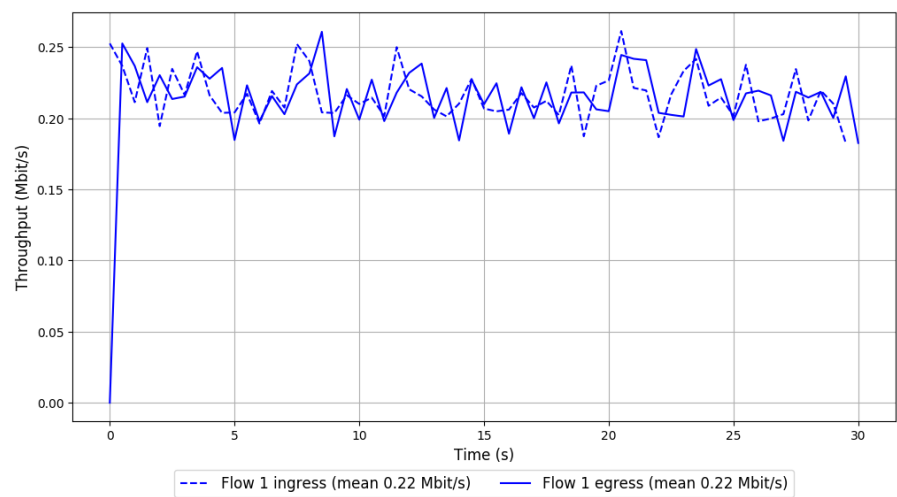
Run 3: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) — Flow 1 egress (mean 0.22 Mbit/s)

• Flow 1 (95th percentile 2.58 ms)

```
Run 4: Statistics of SCReAM

Start at: 2018-10-10 01:43:16
End at: 2018-10-10 01:43:46
Local clock offset: -6.621 ms
Remote clock offset: 0.644 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.445 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.445 ms
Loss rate: 0.00%
```
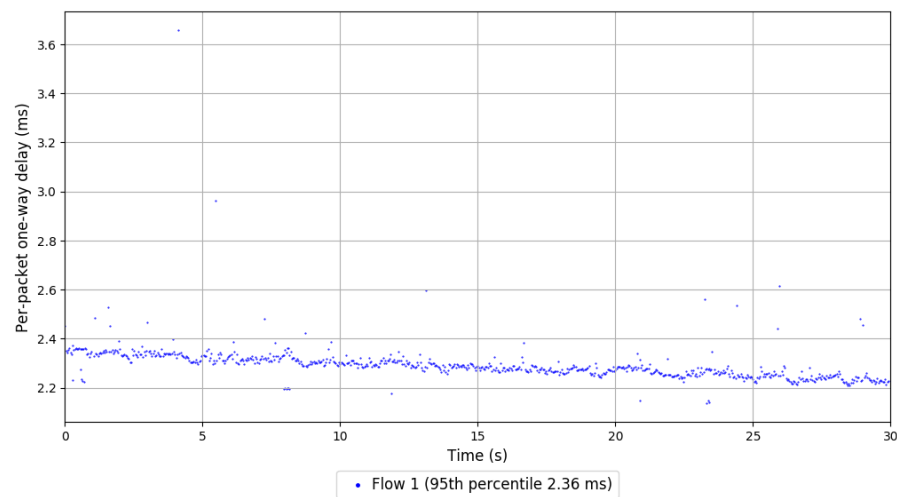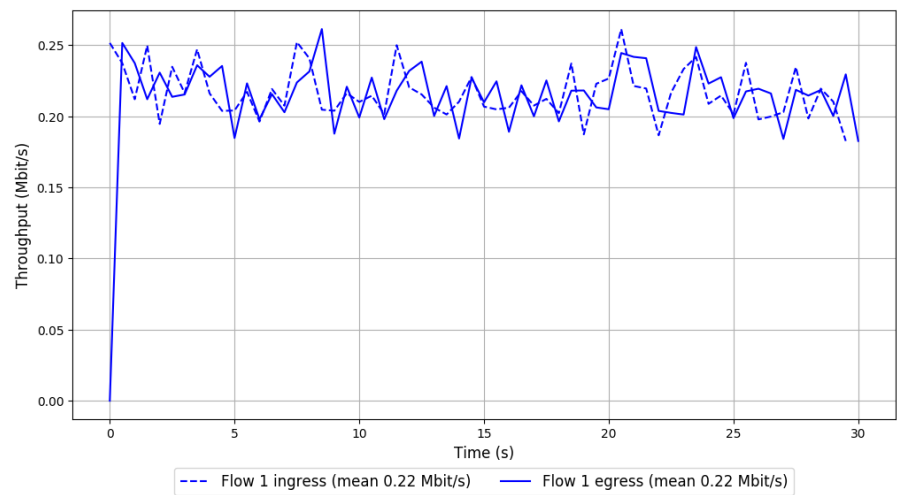
Run 4: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s)   Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 2.44 ms)

```
Run 5: Statistics of SCReAM

Start at: 2018-10-10 02:03:38
End at: 2018-10-10 02:04:08
Local clock offset: -3.466 ms
Remote clock offset: 0.507 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.357 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.357 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) — Flow 1 egress (mean 0.22 Mbit/s)
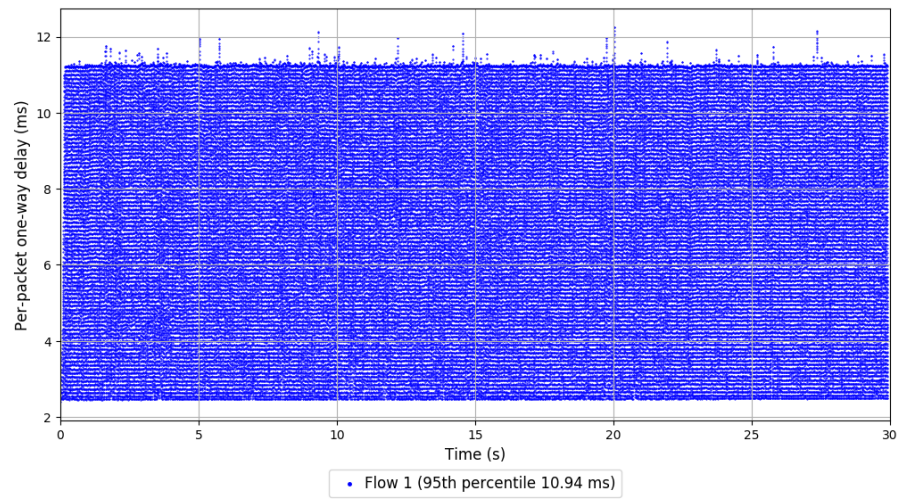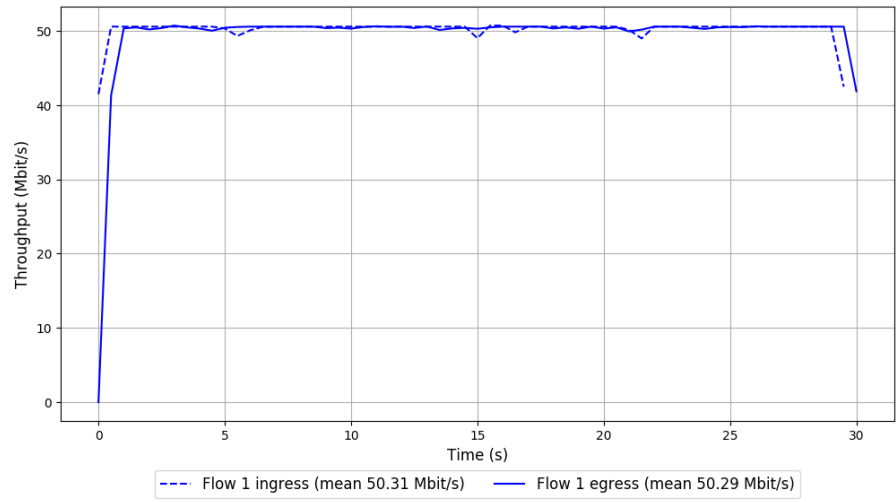

Flow 1 (95th percentile 2.36 ms)

```
Run 1: Statistics of Sprout

Start at: 2018-10-10 00:37:48
End at: 2018-10-10 00:38:18
Local clock offset: -6.765 ms
Remote clock offset: -0.177 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 10.944 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 10.944 ms
Loss rate: 0.04%
```
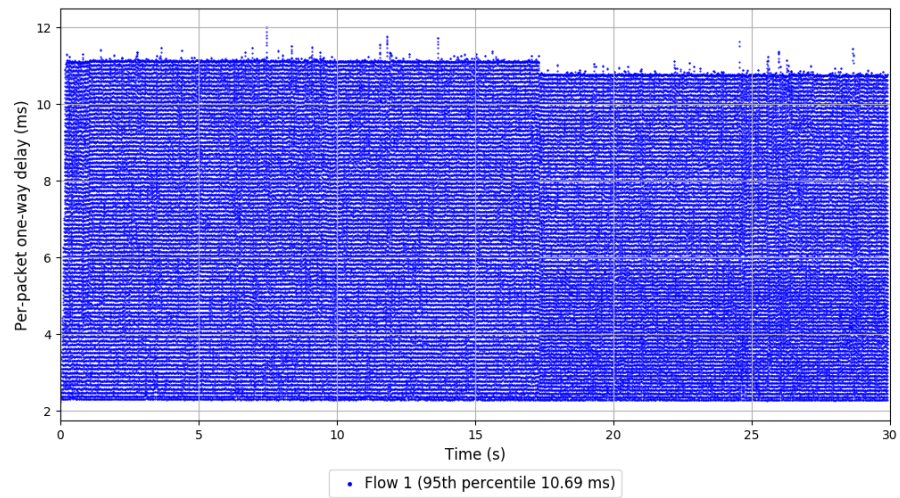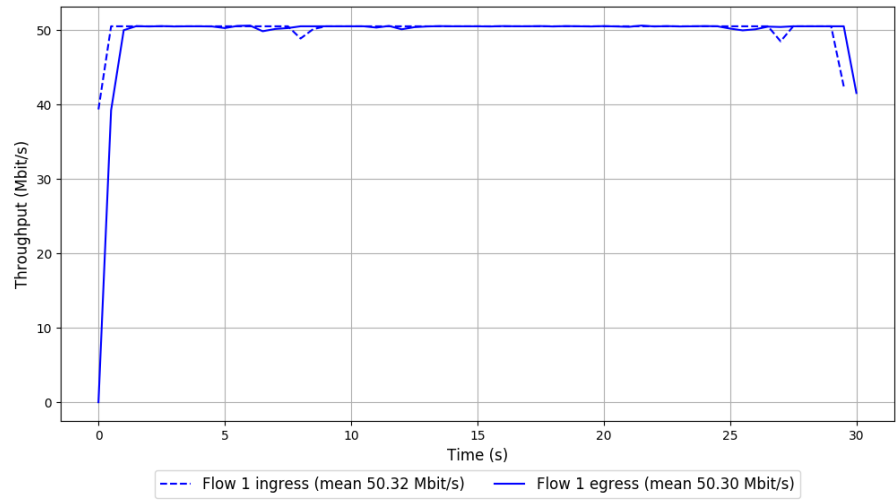
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-10-10 00:58:07
End at: 2018-10-10 00:58:37
Local clock offset: -7.14 ms
Remote clock offset: 0.27 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 10.690 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 10.690 ms
Loss rate: 0.03%
```

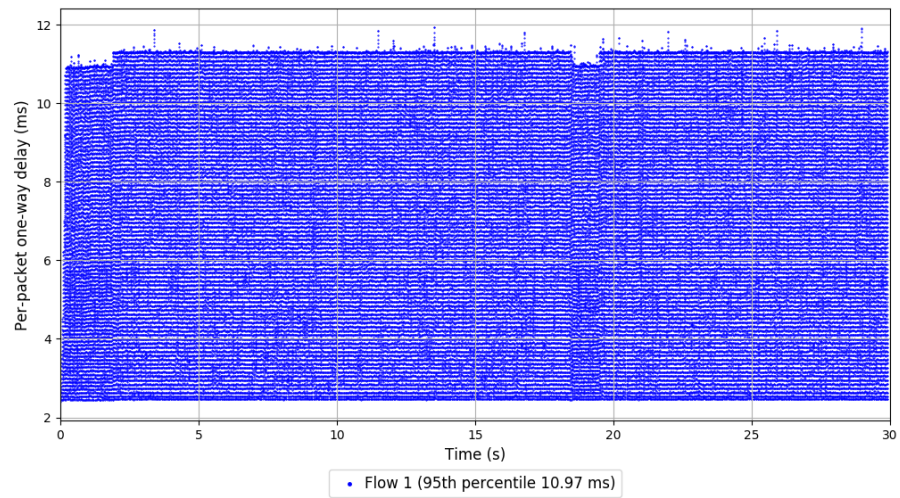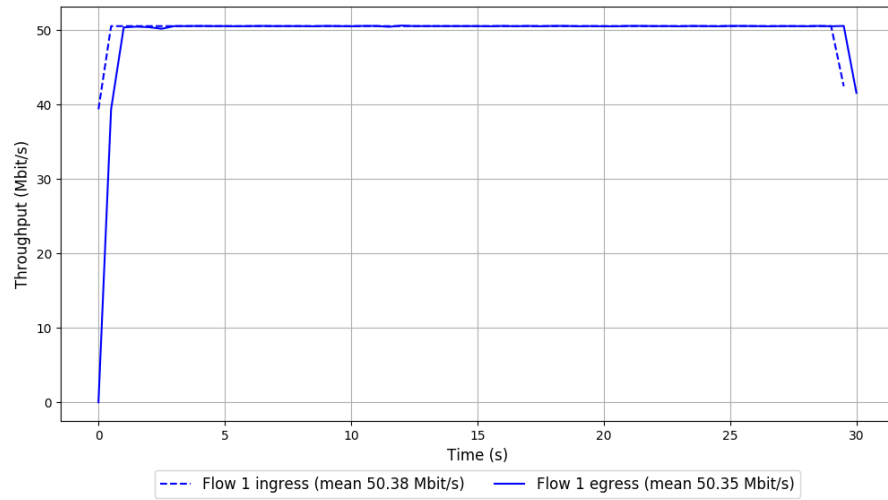Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-10 01:18:29
End at: 2018-10-10 01:18:59
Local clock offset: -6.773 ms
Remote clock offset: 0.478 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.35 Mbit/s
95th percentile per-packet one-way delay: 10.970 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 50.35 Mbit/s
95th percentile per-packet one-way delay: 10.970 ms
Loss rate: 0.05%
```

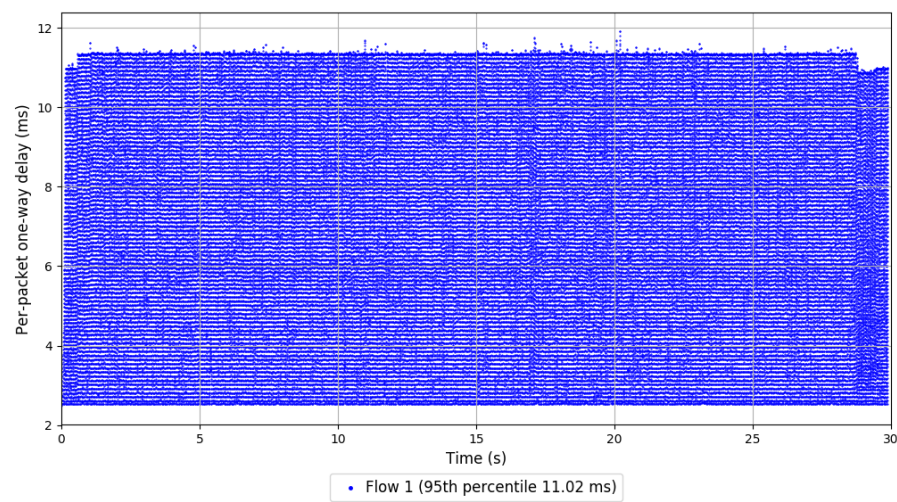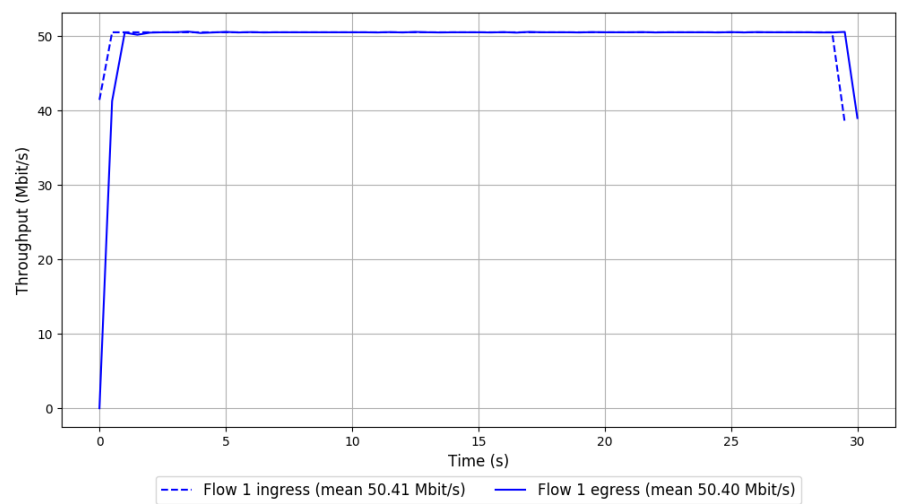Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-10 01:38:51
End at: 2018-10-10 01:39:21
Local clock offset: -6.565 ms
Remote clock offset: 0.544 ms


# Below is generated by plot.py at 2018-10-10 02:15:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.40 Mbit/s
95th percentile per-packet one-way delay: 11.020 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.40 Mbit/s
95th percentile per-packet one-way delay: 11.020 ms
Loss rate: 0.00%
```
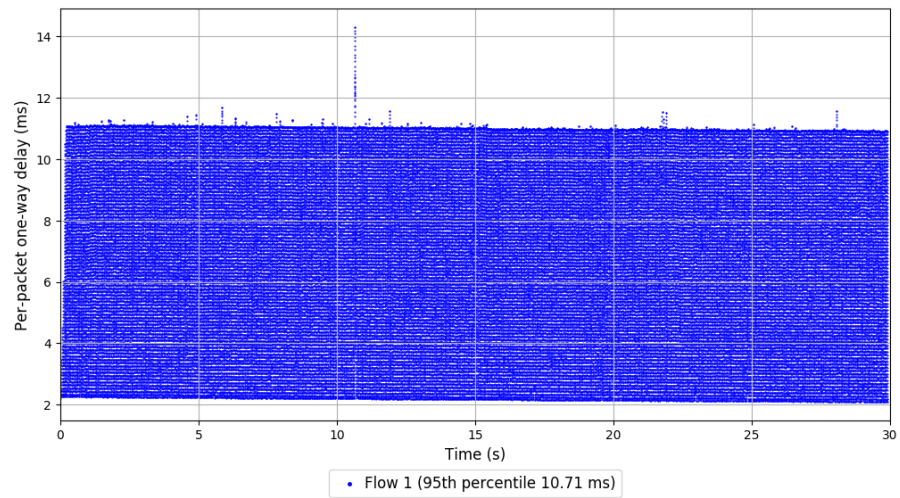
Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 50.41 Mbit/s) --- Flow 1 egress (mean 50.40 Mbit/s)

Flow 1 (95th percentile 11.02 ms)

```
Run 5: Statistics of Sprout

Start at: 2018-10-10 01:59:12
End at: 2018-10-10 01:59:42
Local clock offset: -4.75 ms
Remote clock offset: 0.603 ms


# Below is generated by plot.py at 2018-10-10 02:15:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 10.714 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 10.714 ms
Loss rate: 0.07%
```
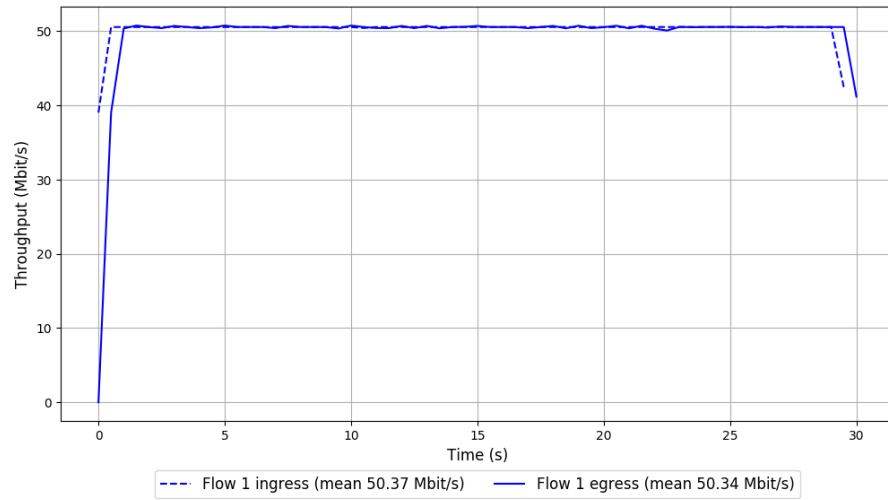
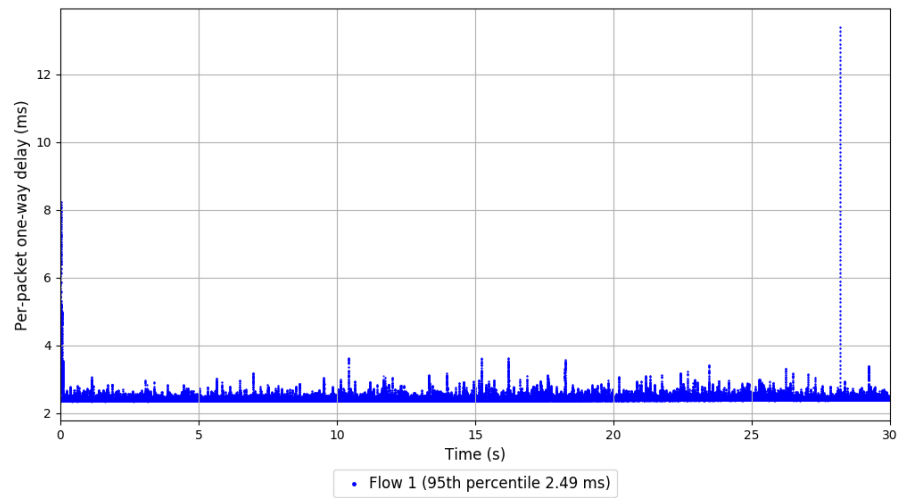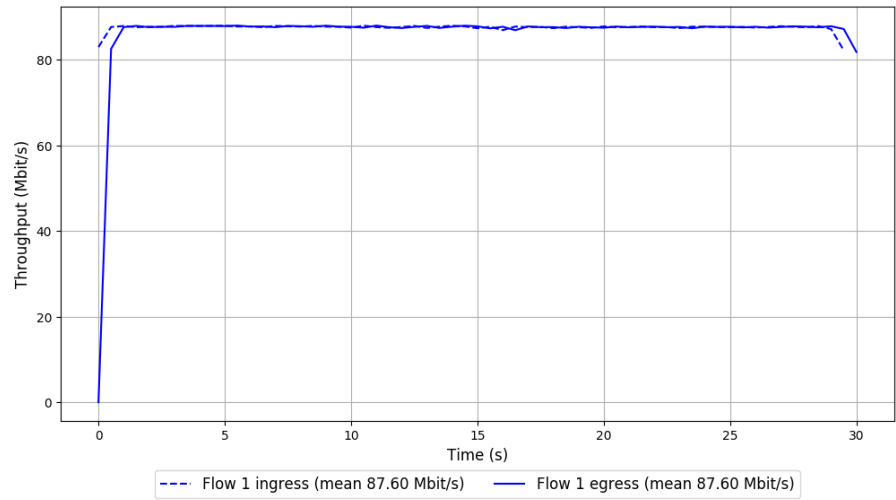Run 5: Report of Sprout — Data Link

```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-10 00:33:15
End at: 2018-10-10 00:33:45
Local clock offset: -6.559 ms
Remote clock offset: -0.188 ms


# Below is generated by plot.py at 2018-10-10 02:16:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.60 Mbit/s
95th percentile per-packet one-way delay: 2.490 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 87.60 Mbit/s
95th percentile per-packet one-way delay: 2.490 ms
Loss rate: 0.02%
```

Run 1: Report of TaoVA-100x — Data Link

```
Run 2: Statistics of TaoVA-100x

Start at: 2018-10-10 00:53:33
End at: 2018-10-10 00:54:03
Local clock offset: -7.338 ms
Remote clock offset: 0.108 ms


# Below is generated by plot.py at 2018-10-10 02:16:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.48 Mbit/s
95th percentile per-packet one-way delay: 2.526 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 87.48 Mbit/s
95th percentile per-packet one-way delay: 2.526 ms
Loss rate: 0.02%
```
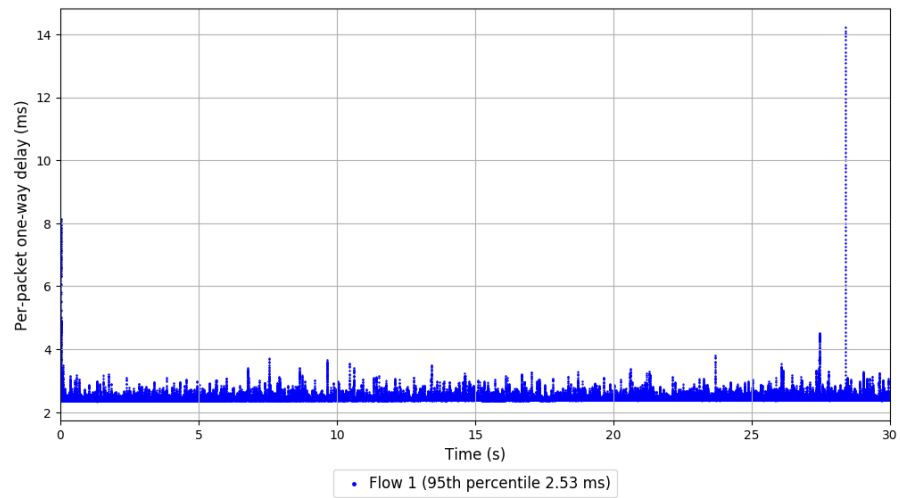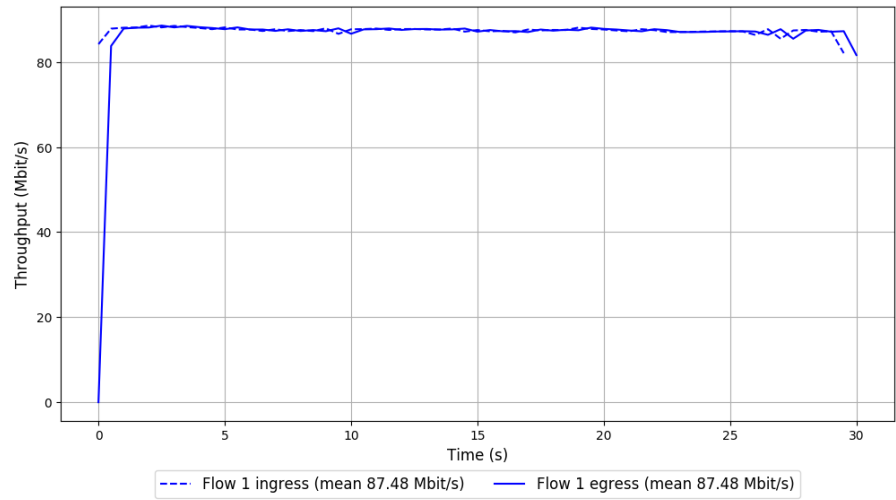
Run 2: Report of TaoVA-100x — Data Link

```
Run 3: Statistics of TaoVA-100x

Start at: 2018-10-10 01:13:55
End at: 2018-10-10 01:14:25
Local clock offset: -6.764 ms
Remote clock offset: 0.437 ms


# Below is generated by plot.py at 2018-10-10 02:16:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.57 Mbit/s
95th percentile per-packet one-way delay: 2.532 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 87.57 Mbit/s
95th percentile per-packet one-way delay: 2.532 ms
Loss rate: 0.02%
```
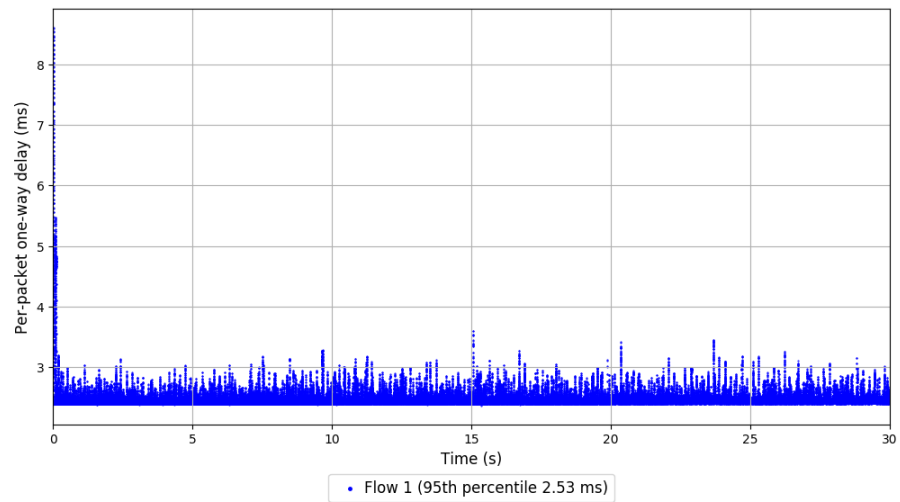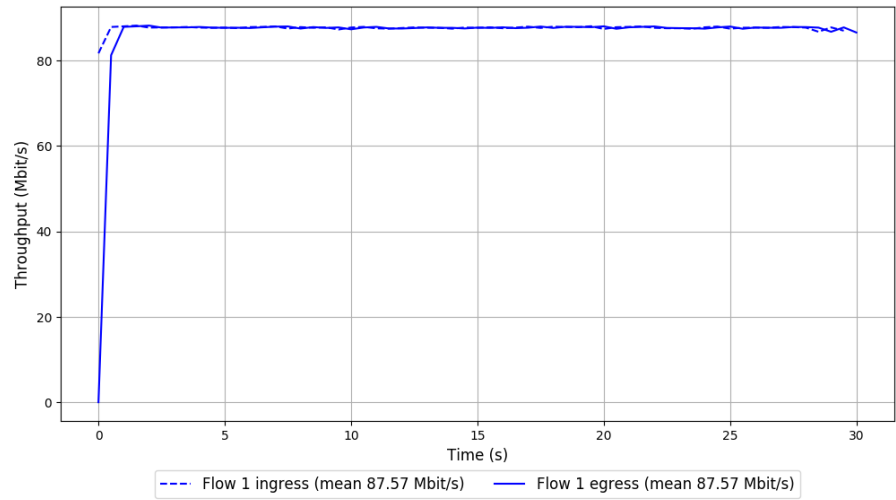
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 87.57 Mbit/s)   Flow 1 egress (mean 87.57 Mbit/s)

Flow 1 (95th percentile 2.53 ms)

```
Run 4: Statistics of TaoVA-100x

Start at: 2018-10-10 01:34:17
End at: 2018-10-10 01:34:47
Local clock offset: -6.608 ms
Remote clock offset: 0.615 ms


# Below is generated by plot.py at 2018-10-10 02:16:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.74 Mbit/s
95th percentile per-packet one-way delay: 2.451 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 87.74 Mbit/s
95th percentile per-packet one-way delay: 2.451 ms
Loss rate: 0.02%
```
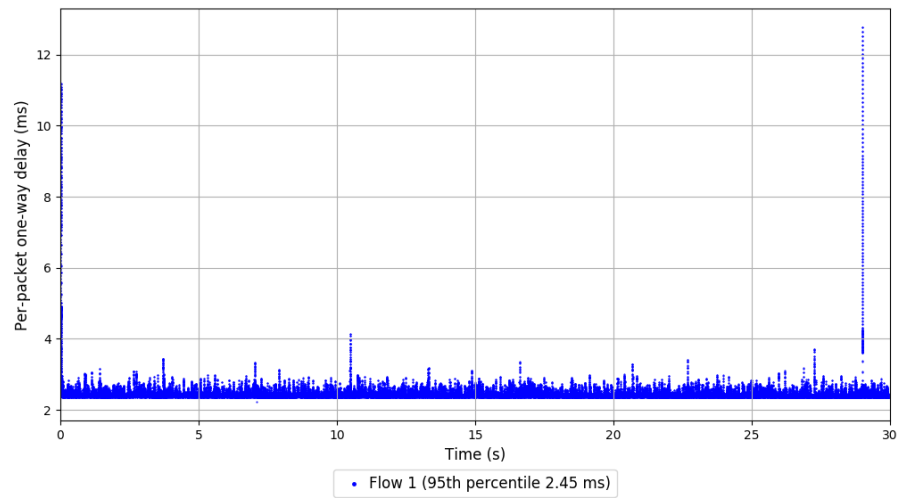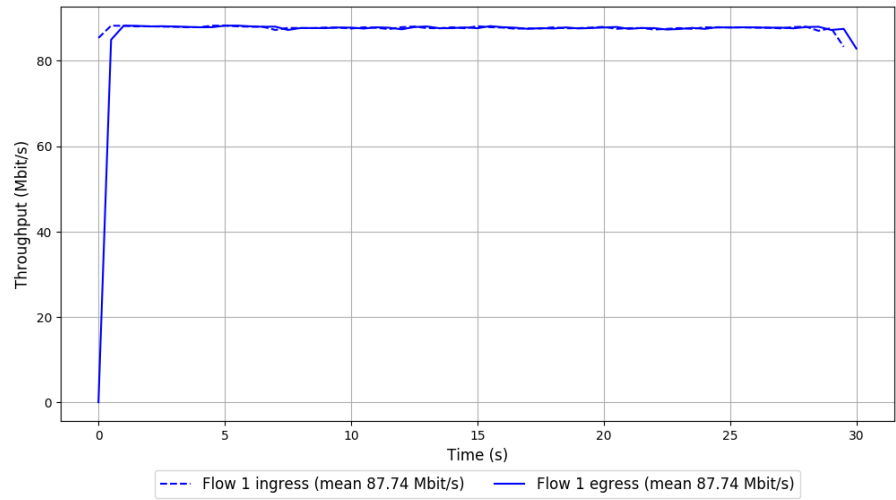
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 87.74 Mbit/s)   Flow 1 egress (mean 87.74 Mbit/s)

Flow 1 (95th percentile 2.45 ms)

```
Run 5: Statistics of TaoVA-100x

Start at: 2018-10-10 01:54:38
End at: 2018-10-10 01:55:08
Local clock offset: -6.618 ms
Remote clock offset: 0.681 ms

# Below is generated by plot.py at 2018-10-10 02:16:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 2.289 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 2.289 ms
Loss rate: 0.02%
```
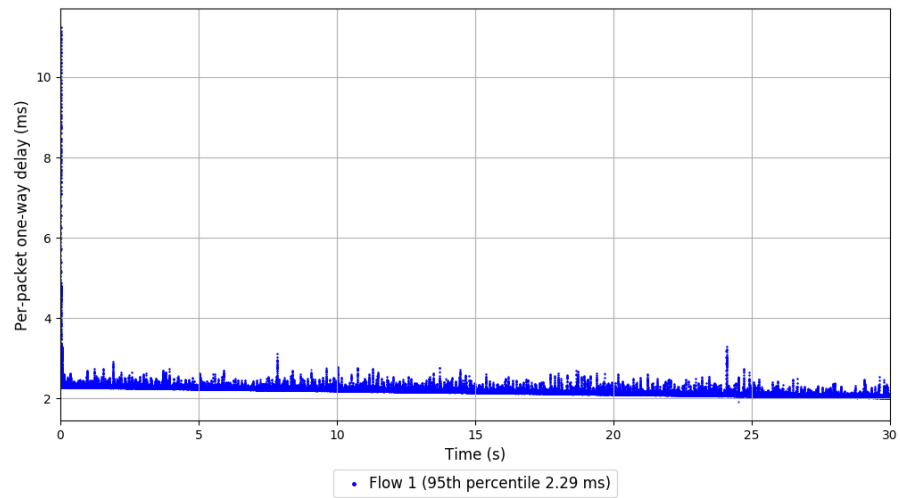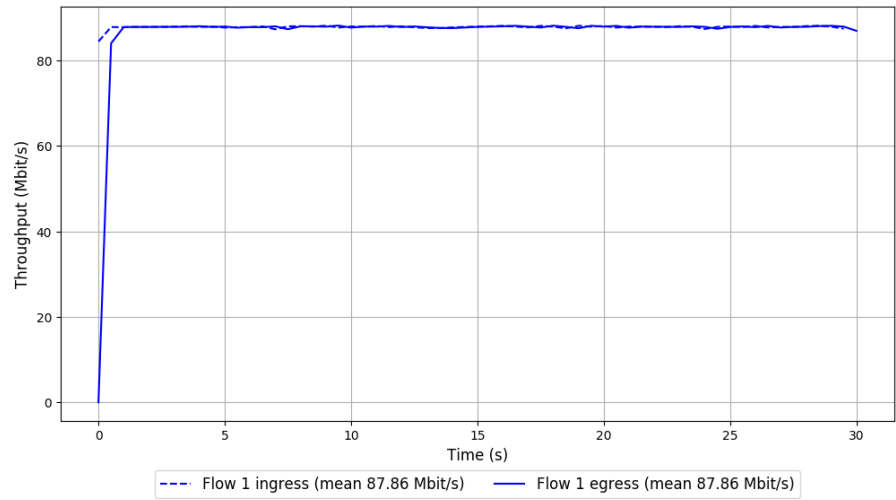
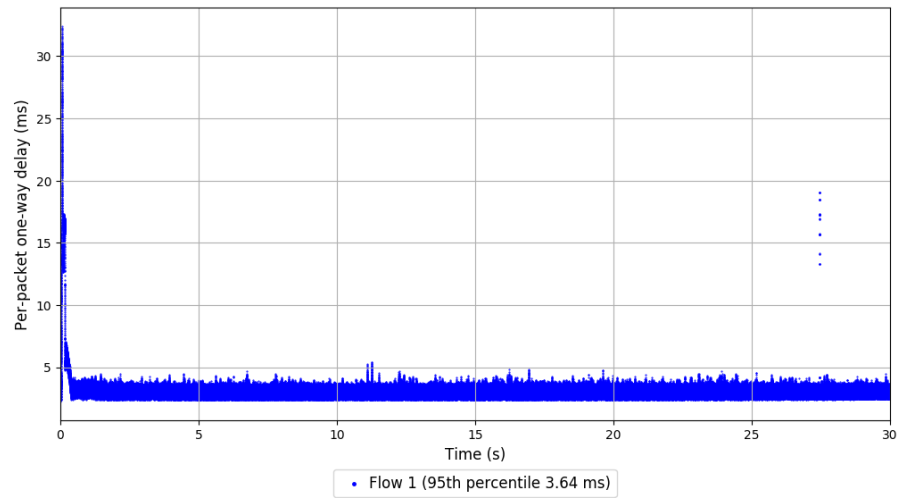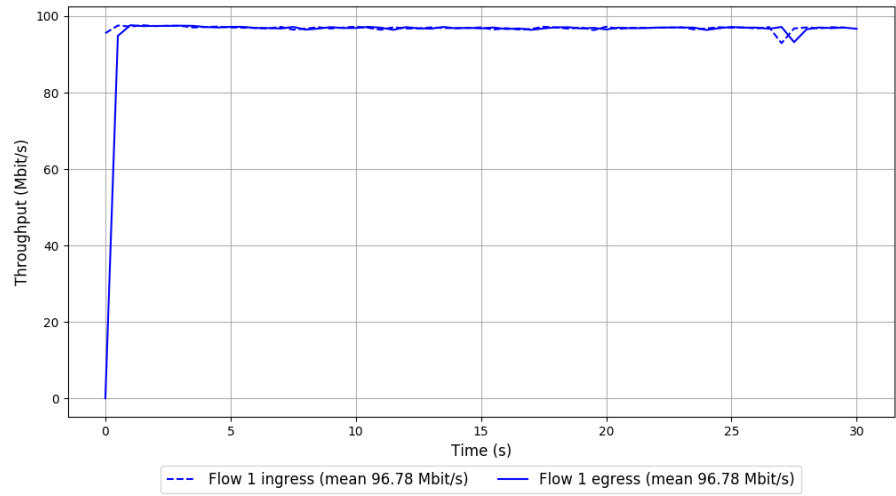## Run 5: Report of TaoVA-100x — Data Link

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```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-10 00:26:25
End at: 2018-10-10 00:26:55
Local clock offset: -6.112 ms
Remote clock offset: -0.281 ms


# Below is generated by plot.py at 2018-10-10 02:16:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.78 Mbit/s
95th percentile per-packet one-way delay: 3.636 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 96.78 Mbit/s
95th percentile per-packet one-way delay: 3.636 ms
Loss rate: 0.02%
```

Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 96.78 Mbit/s)   Flow 1 egress (mean 96.78 Mbit/s)

• Flow 1 (95th percentile 3.64 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-10 00:46:44
End at: 2018-10-10 00:47:14
Local clock offset: -7.065 ms
Remote clock offset: 0.072 ms


# Below is generated by plot.py at 2018-10-10 02:16:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 3.658 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 3.658 ms
Loss rate: 0.02%
```
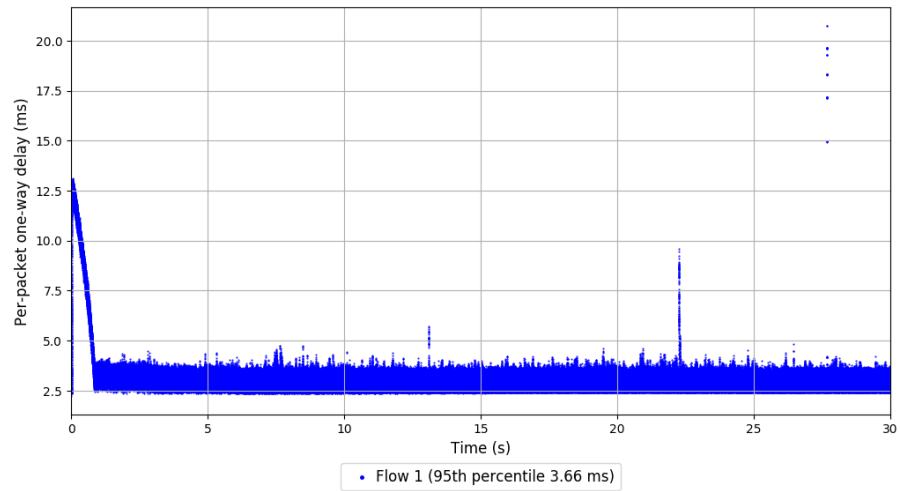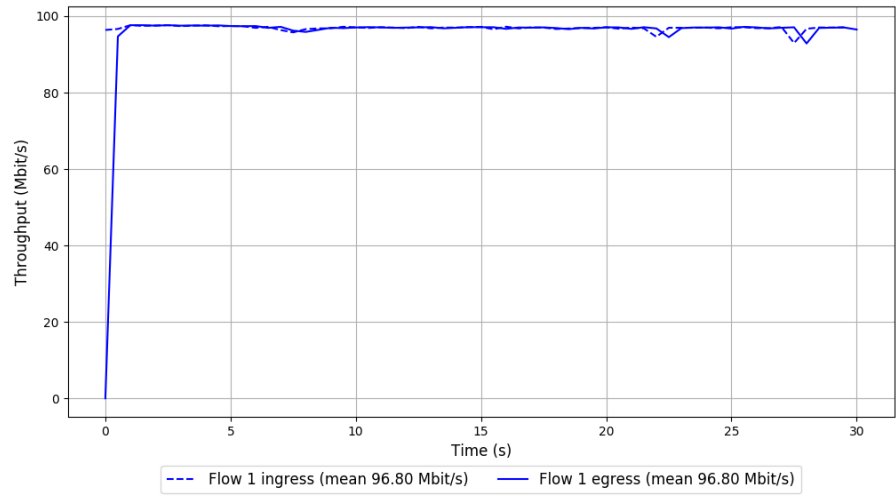
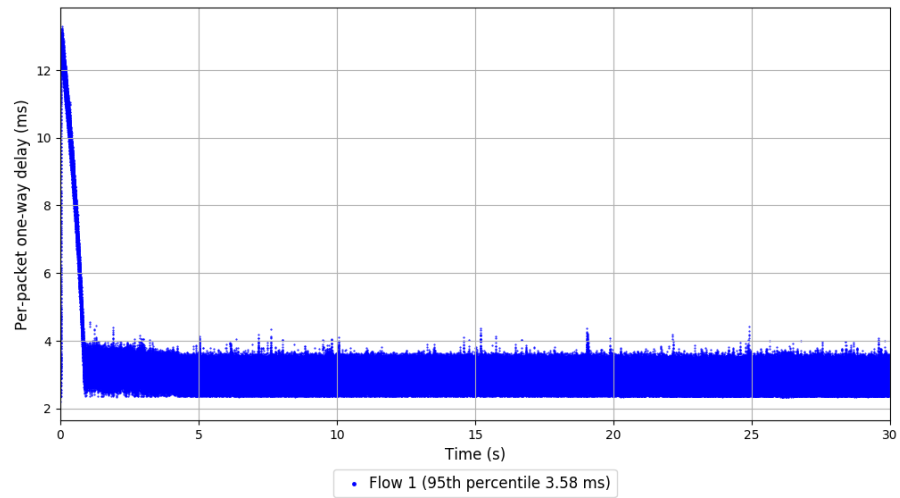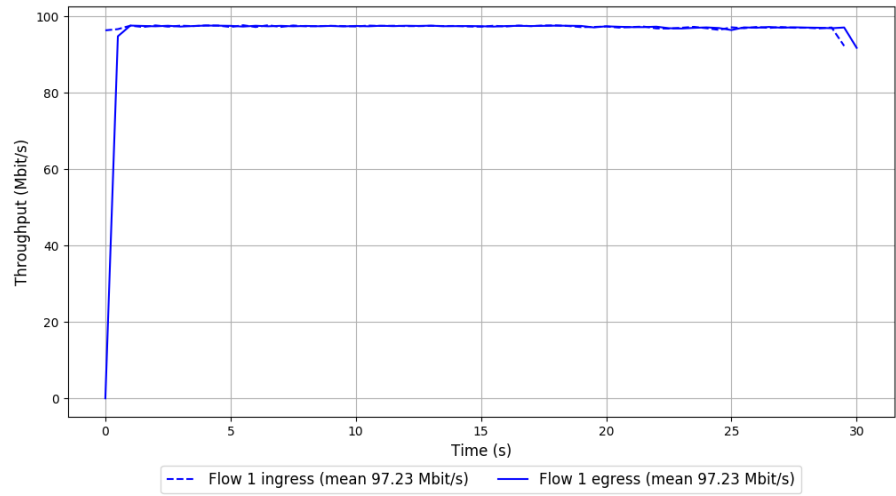Run 2: Report of TCP Vegas — Data Link

Run 3: Statistics of TCP Vegas

Start at: 2018-10-10 01:07:06
End at: 2018-10-10 01:07:36
Local clock offset: -6.801 ms
Remote clock offset: 0.416 ms

Below is generated by plot.py at 2018-10-10 02:16:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 3.575 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 3.575 ms
Loss rate: 0.02%

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 97.23 Mbit/s)   Flow 1 egress (mean 97.23 Mbit/s)

Flow 1 (95th percentile 3.58 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-10 01:27:28
End at: 2018-10-10 01:27:58
Local clock offset: -6.726 ms
Remote clock offset: 0.561 ms


# Below is generated by plot.py at 2018-10-10 02:17:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.96 Mbit/s
95th percentile per-packet one-way delay: 3.622 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 96.96 Mbit/s
95th percentile per-packet one-way delay: 3.622 ms
Loss rate: 0.02%
```
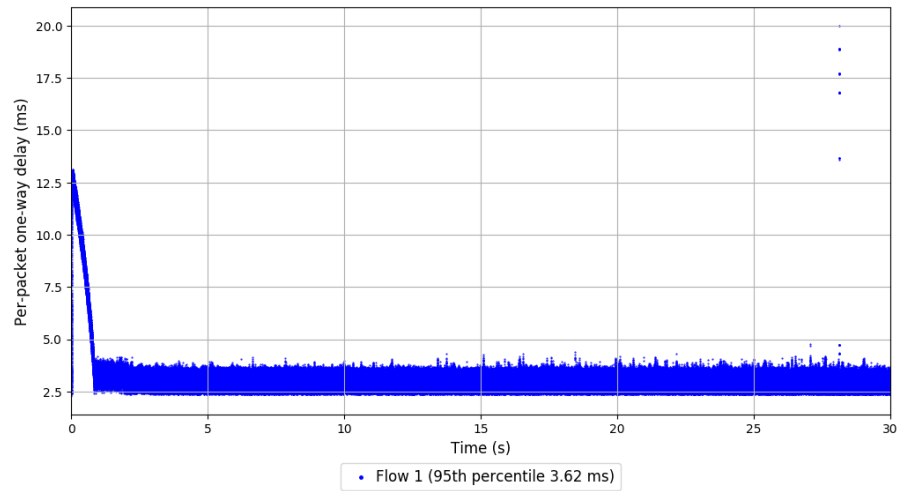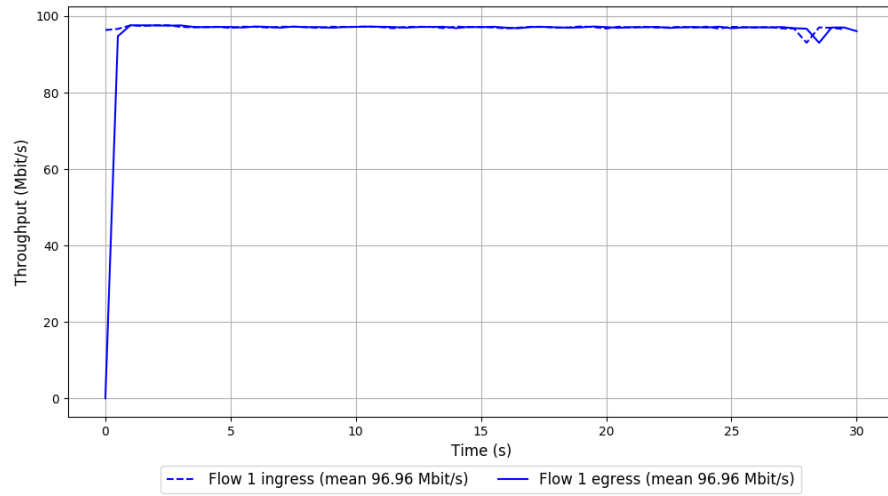
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-10 01:47:49
End at: 2018-10-10 01:48:19
Local clock offset: -6.642 ms
Remote clock offset: 0.631 ms


# Below is generated by plot.py at 2018-10-10 02:17:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.05 Mbit/s
95th percentile per-packet one-way delay: 3.579 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 97.05 Mbit/s
95th percentile per-packet one-way delay: 3.579 ms
Loss rate: 0.02%
```
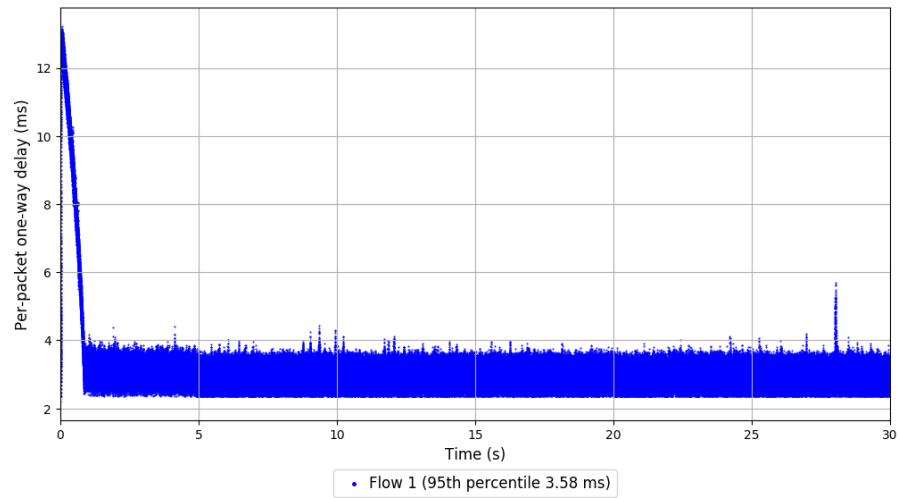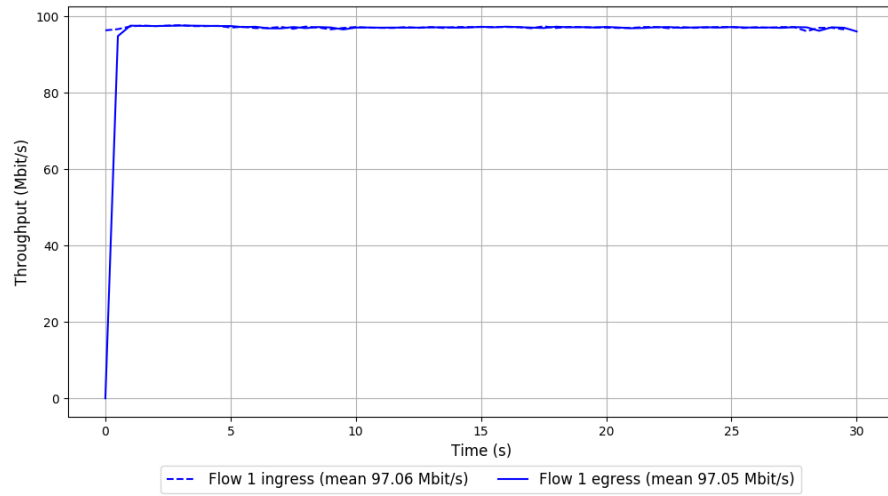
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 97.06 Mbit/s) --- Flow 1 egress (mean 97.05 Mbit/s)

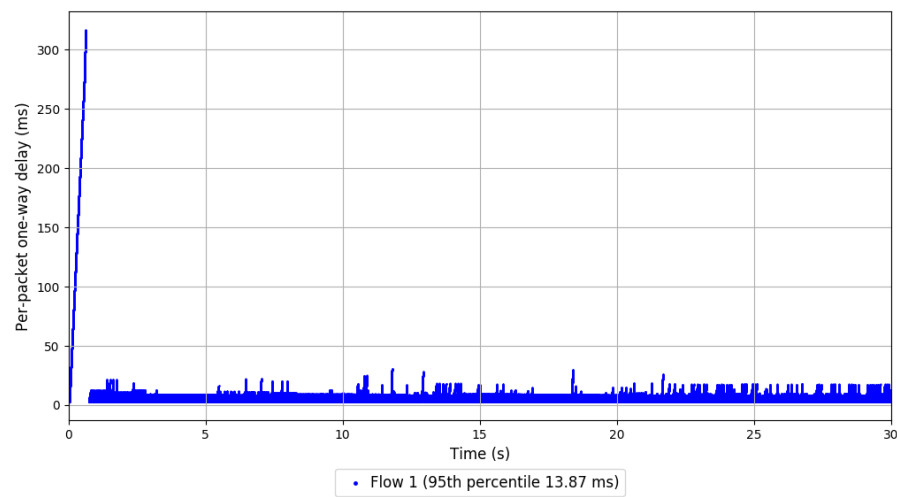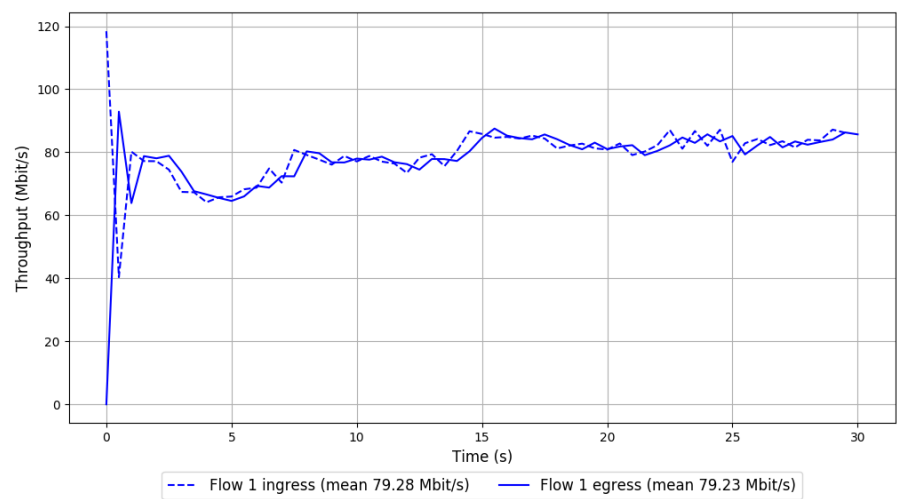Flow 1 (95th percentile 3.58 ms)

```
Run 1: Statistics of Verus

Start at: 2018-10-10 00:27:33
End at: 2018-10-10 00:28:03
Local clock offset: -6.199 ms
Remote clock offset: -0.451 ms


# Below is generated by plot.py at 2018-10-10 02:17:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.23 Mbit/s
95th percentile per-packet one-way delay: 13.869 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 79.23 Mbit/s
95th percentile per-packet one-way delay: 13.869 ms
Loss rate: 0.06%
```

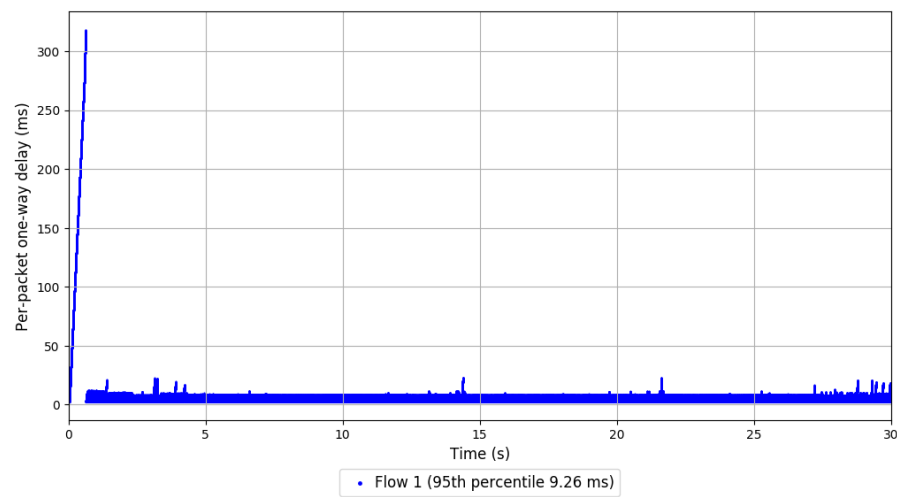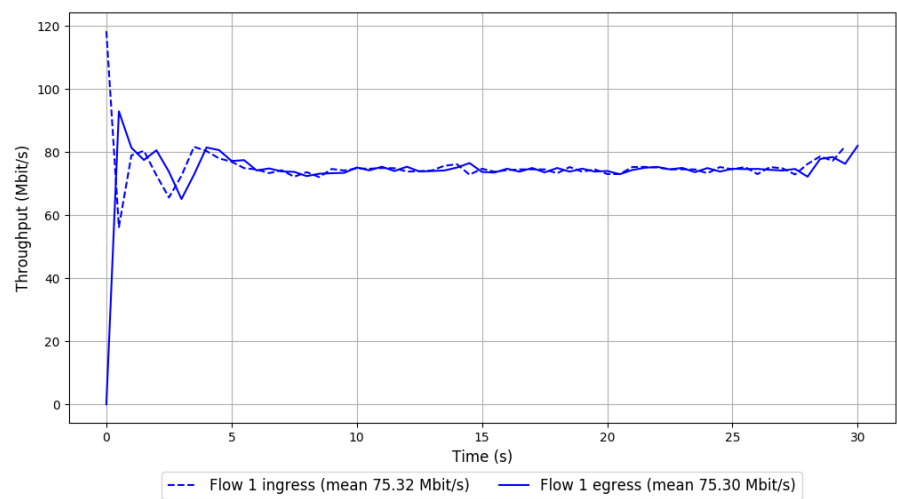Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-10-10 00:47:52
End at: 2018-10-10 00:48:22
Local clock offset: -7.171 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2018-10-10 02:17:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.30 Mbit/s
95th percentile per-packet one-way delay: 9.256 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 75.30 Mbit/s
95th percentile per-packet one-way delay: 9.256 ms
Loss rate: 0.04%
```

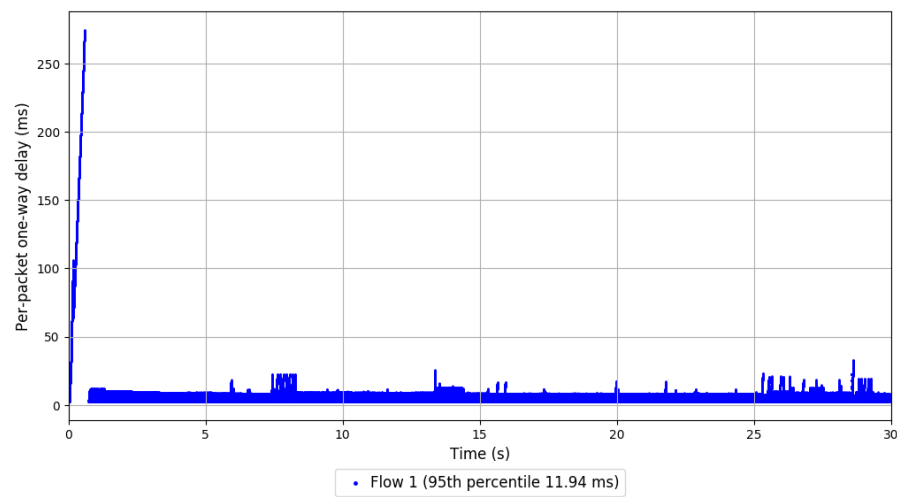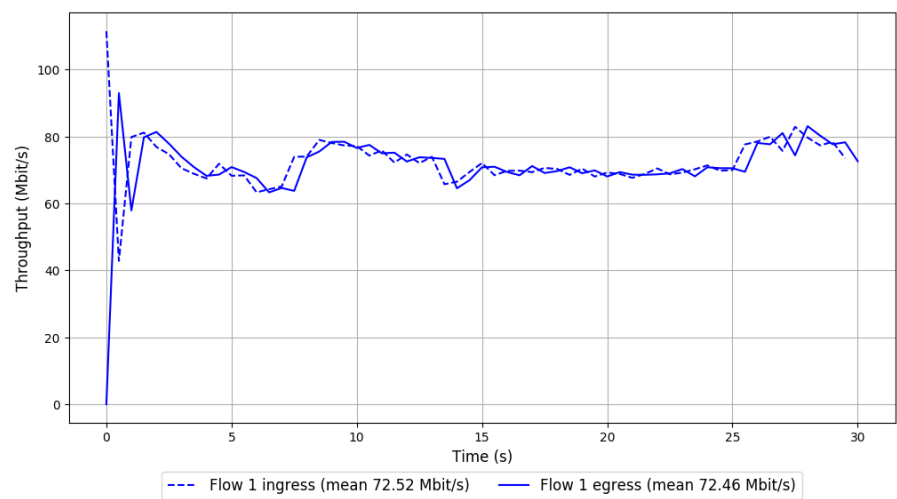Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-10-10 01:08:14
End at: 2018-10-10 01:08:44
Local clock offset: -6.779 ms
Remote clock offset: 0.371 ms


# Below is generated by plot.py at 2018-10-10 02:17:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.46 Mbit/s
95th percentile per-packet one-way delay: 11.938 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 72.46 Mbit/s
95th percentile per-packet one-way delay: 11.938 ms
Loss rate: 0.09%
```

Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-10 01:28:36
End at: 2018-10-10 01:29:06
Local clock offset: -6.682 ms
Remote clock offset: 0.478 ms


# Below is generated by plot.py at 2018-10-10 02:17:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.54 Mbit/s
95th percentile per-packet one-way delay: 10.383 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 74.54 Mbit/s
95th percentile per-packet one-way delay: 10.383 ms
Loss rate: 0.05%
```
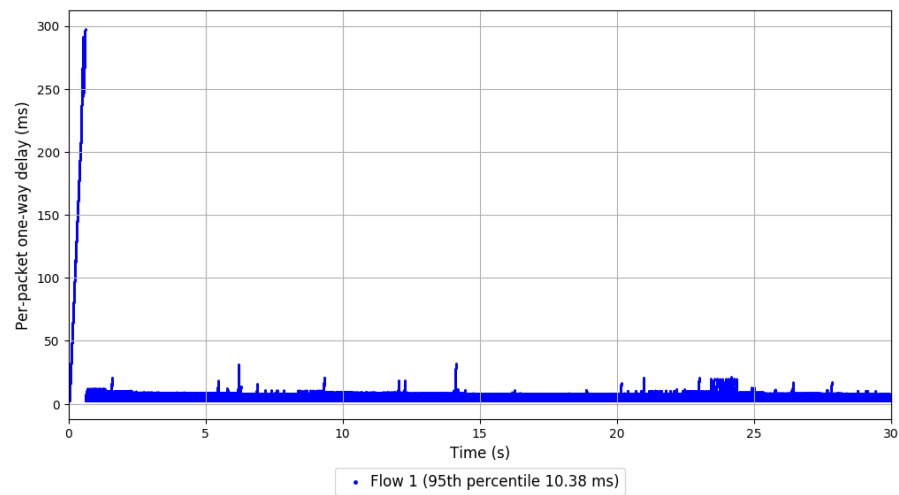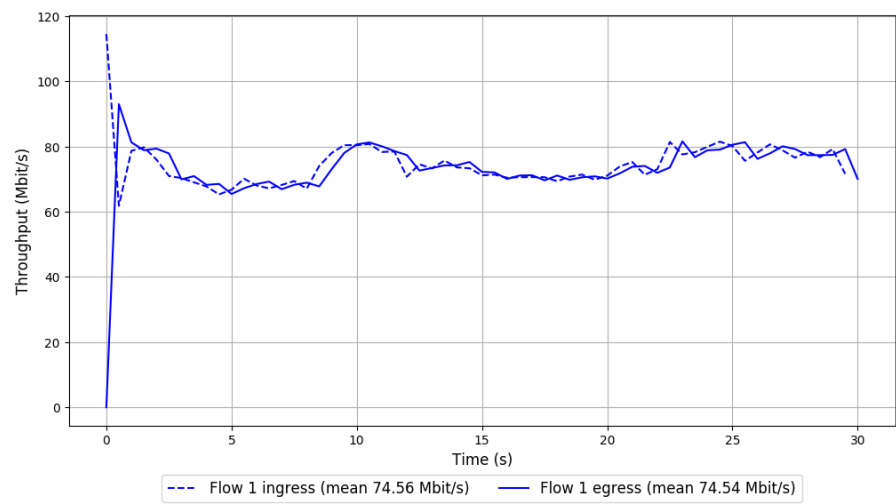
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 74.56 Mbit/s)   Flow 1 egress (mean 74.54 Mbit/s)

Flow 1 (95th percentile 10.38 ms)

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```
Run 5: Statistics of Verus

Start at: 2018-10-10 01:48:57
End at: 2018-10-10 01:49:27
Local clock offset: -6.584 ms
Remote clock offset: 0.591 ms


# Below is generated by plot.py at 2018-10-10 02:17:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.07 Mbit/s
95th percentile per-packet one-way delay: 10.811 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 77.07 Mbit/s
95th percentile per-packet one-way delay: 10.811 ms
Loss rate: 0.03%
```
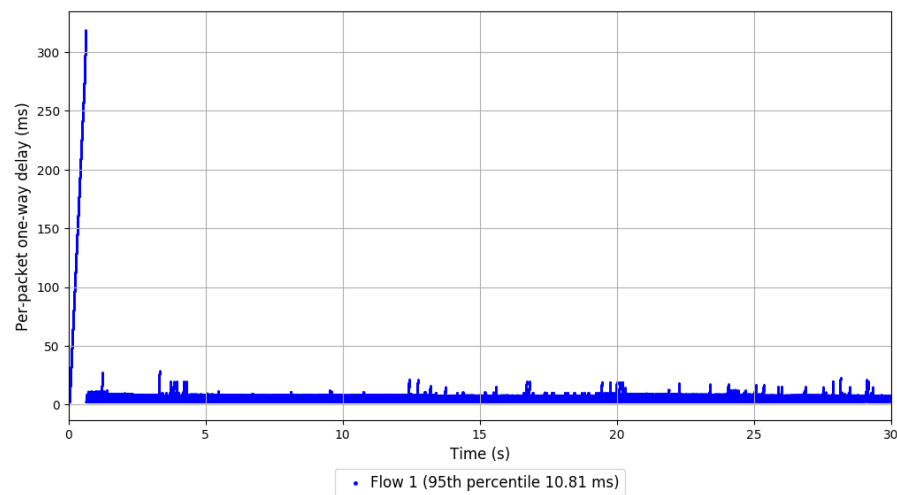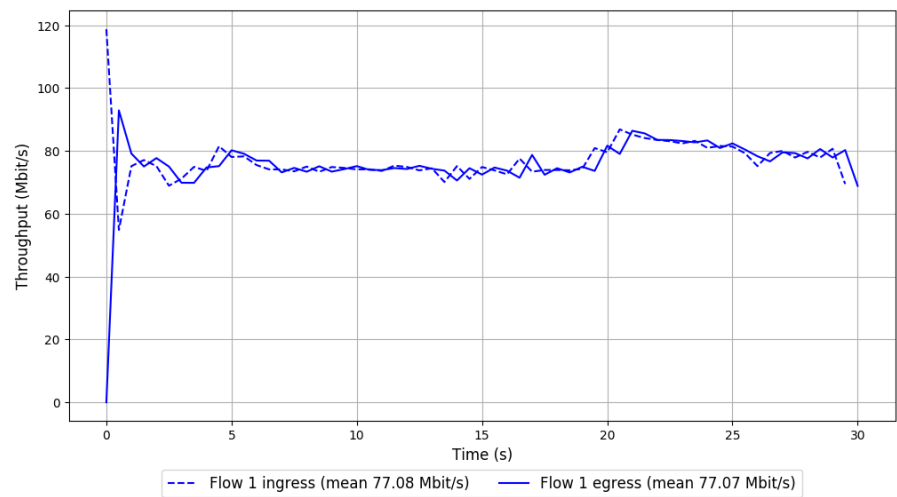
Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 77.08 Mbit/s)   Flow 1 egress (mean 77.07 Mbit/s)
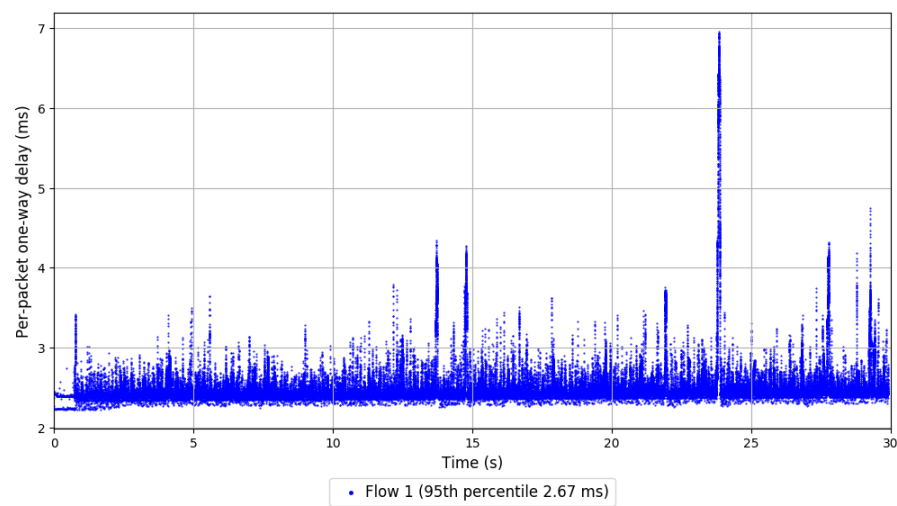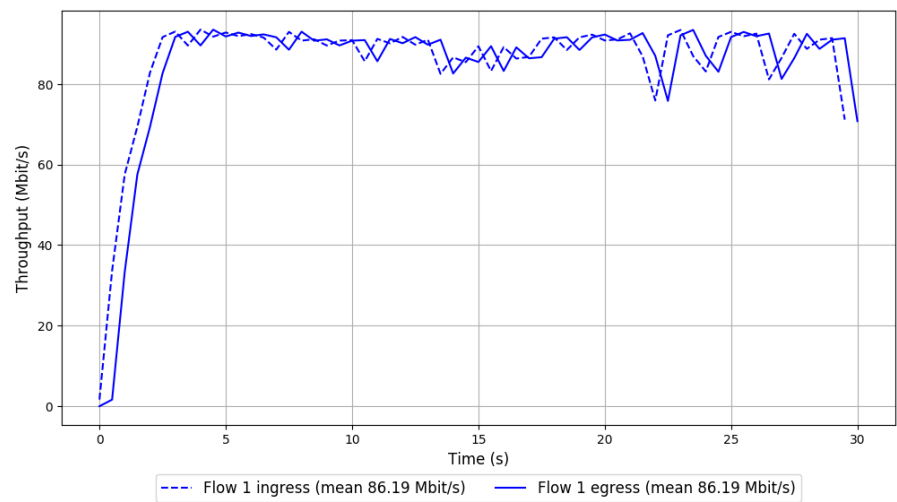

Flow 1 (95th percentile 10.81 ms)

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-10 00:25:16
End at: 2018-10-10 00:25:46
Local clock offset: -6.004 ms
Remote clock offset: -0.278 ms


# Below is generated by plot.py at 2018-10-10 02:17:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.19 Mbit/s
95th percentile per-packet one-way delay: 2.670 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 86.19 Mbit/s
95th percentile per-packet one-way delay: 2.670 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-10 00:45:38
End at: 2018-10-10 00:46:08
Local clock offset: -7.107 ms
Remote clock offset: 0.045 ms


# Below is generated by plot.py at 2018-10-10 02:17:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.21 Mbit/s
95th percentile per-packet one-way delay: 2.516 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 40.21 Mbit/s
95th percentile per-packet one-way delay: 2.516 ms
Loss rate: 0.03%
```
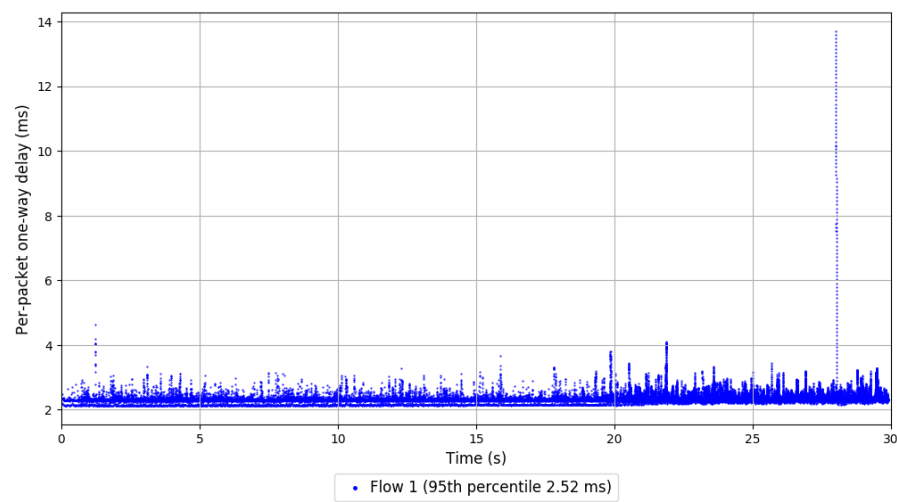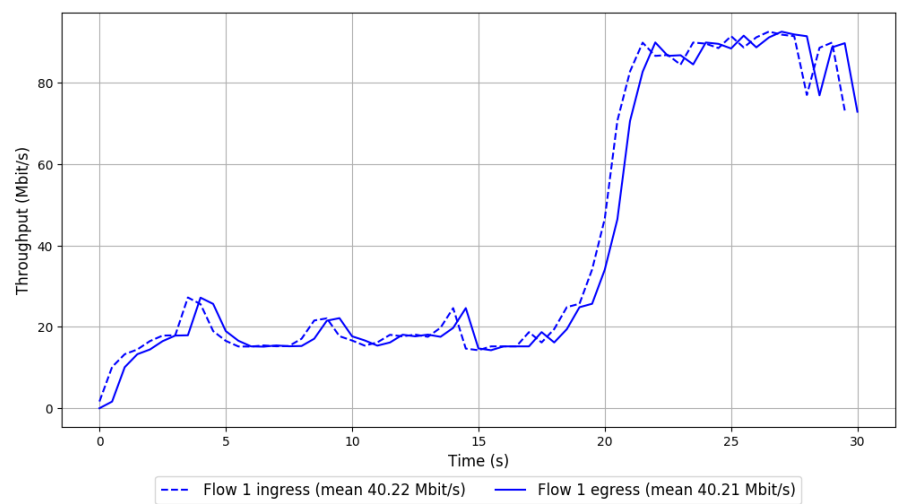
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-10 01:05:57
End at: 2018-10-10 01:06:27
Local clock offset: -6.798 ms
Remote clock offset: 0.337 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.75 Mbit/s
95th percentile per-packet one-way delay: 2.589 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 88.75 Mbit/s
95th percentile per-packet one-way delay: 2.589 ms
Loss rate: 0.02%
```
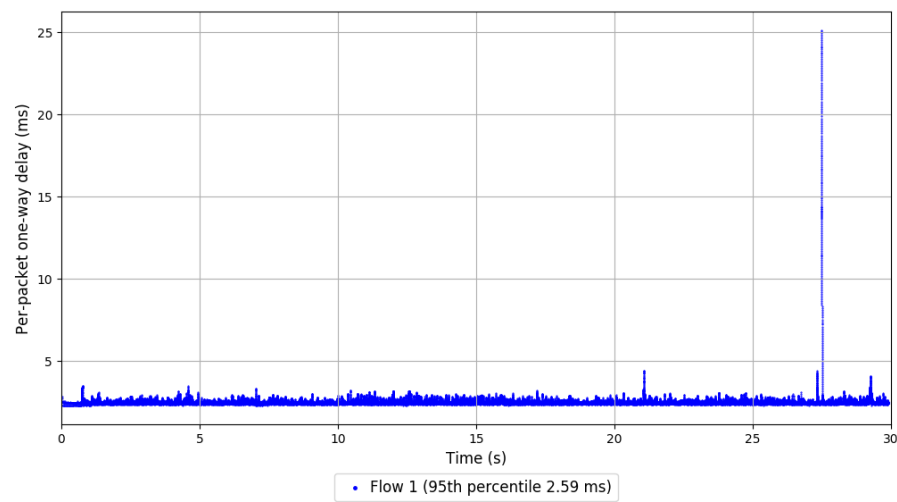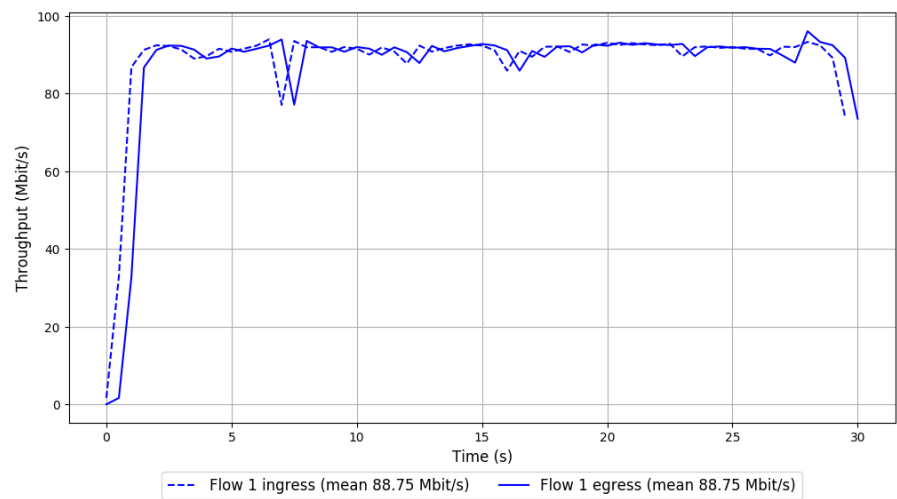
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-10 01:26:19
End at: 2018-10-10 01:26:49
Local clock offset: -6.786 ms
Remote clock offset: 0.527 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.00 Mbit/s
95th percentile per-packet one-way delay: 2.732 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 85.00 Mbit/s
95th percentile per-packet one-way delay: 2.732 ms
Loss rate: 0.02%
```
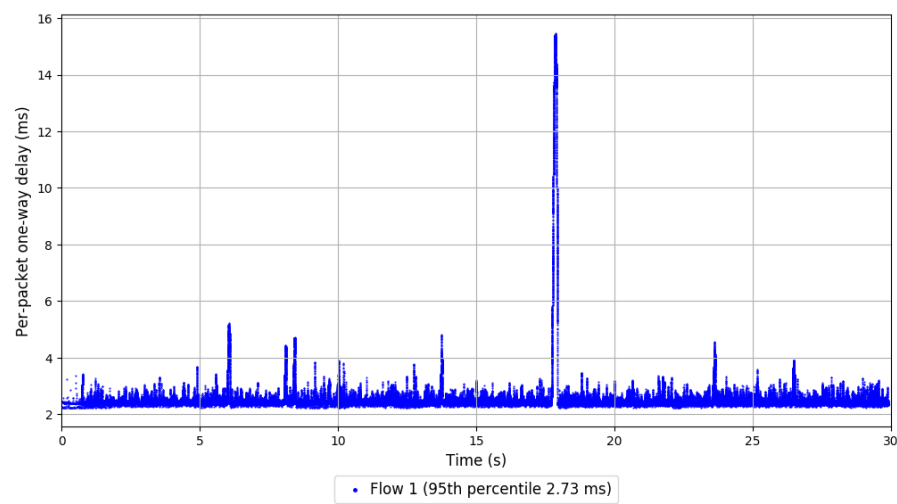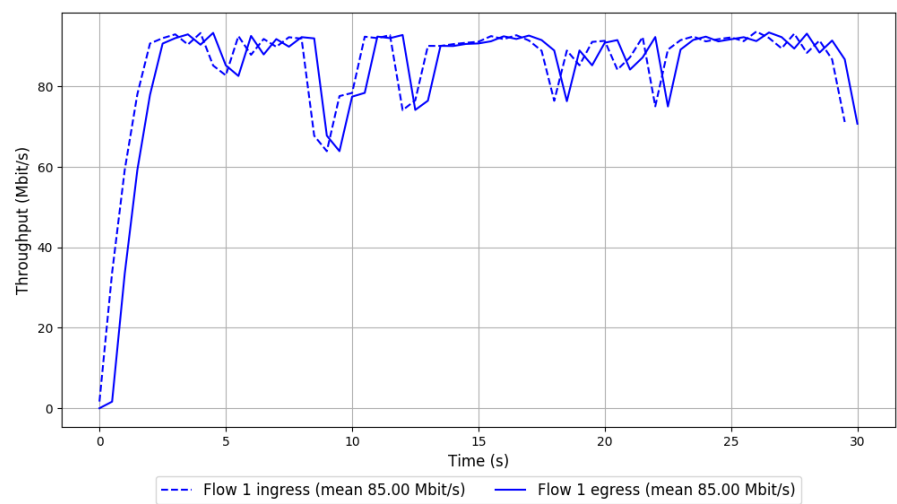
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-10 01:46:41
End at: 2018-10-10 01:47:11
Local clock offset: -6.594 ms
Remote clock offset: 0.715 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.65 Mbit/s
95th percentile per-packet one-way delay: 2.623 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 73.65 Mbit/s
95th percentile per-packet one-way delay: 2.623 ms
Loss rate: 0.02%
```
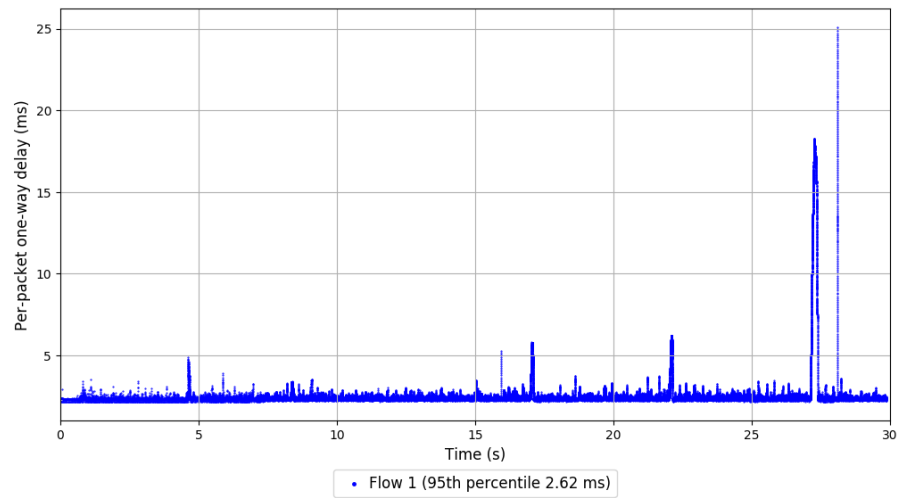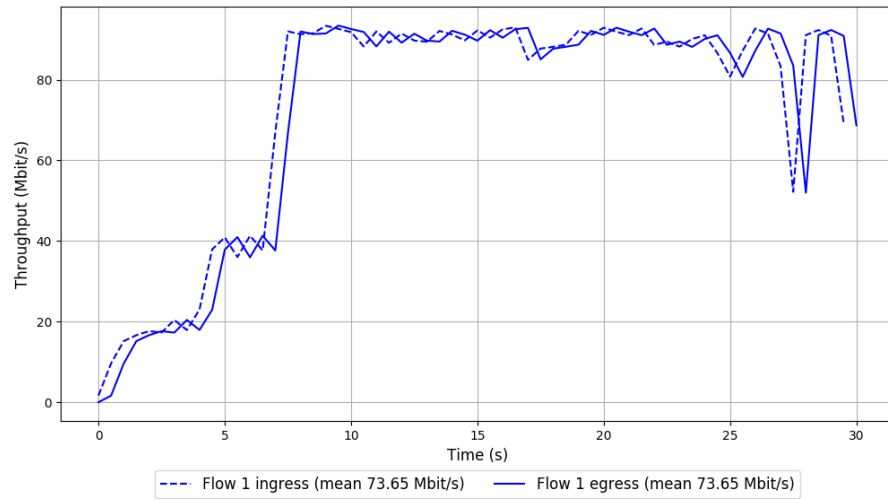
Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 73.65 Mbit/s)   Flow 1 egress (mean 73.65 Mbit/s)

Flow 1 (95th percentile 2.62 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-10-10 00:40:02
End at: 2018-10-10 00:40:32
Local clock offset: -6.84 ms
Remote clock offset: -0.24 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 3.020 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 3.020 ms
Loss rate: 0.00%
```
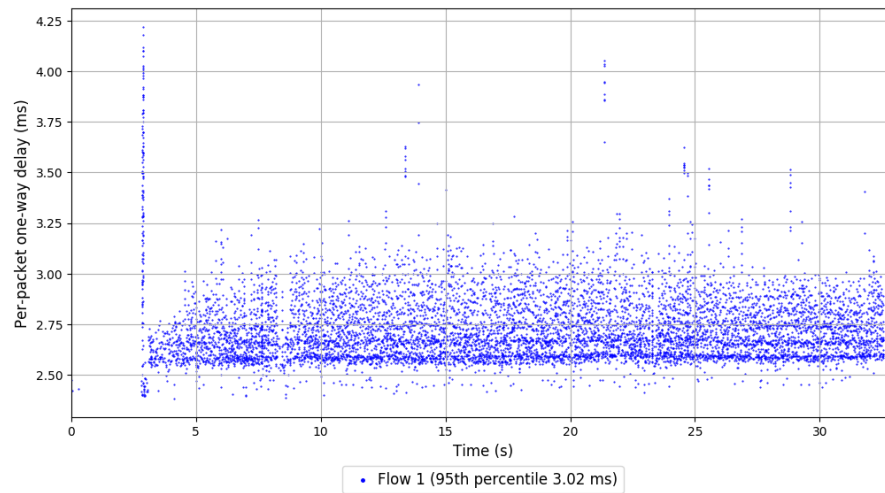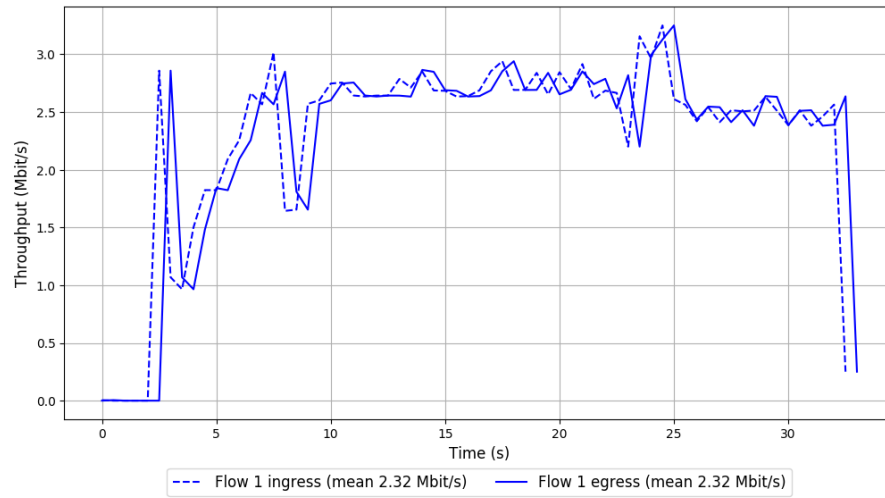
Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.32 Mbit/s)   Flow 1 egress (mean 2.32 Mbit/s)

Flow 1 (95th percentile 3.02 ms)

```
Run 2: Statistics of WebRTC media

Start at: 2018-10-10 01:00:21
End at: 2018-10-10 01:00:51
Local clock offset: -6.965 ms
Remote clock offset: 0.256 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 2.886 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 2.886 ms
Loss rate: 0.00%
```
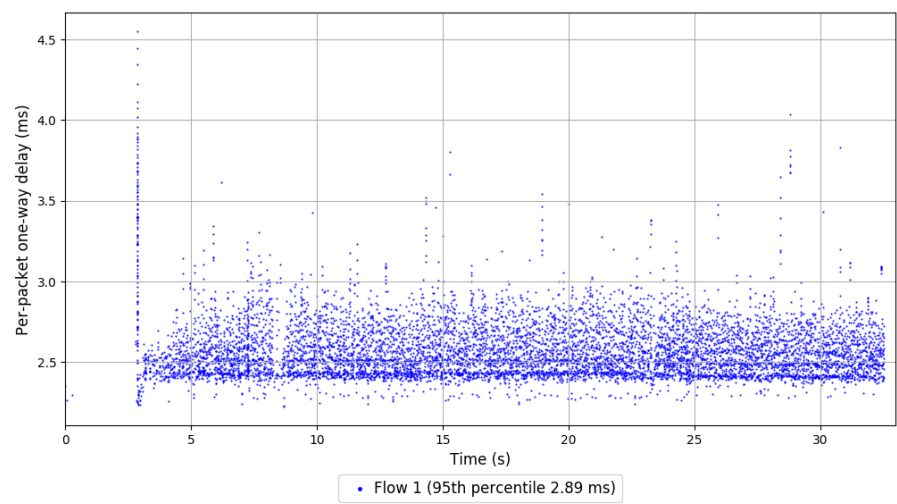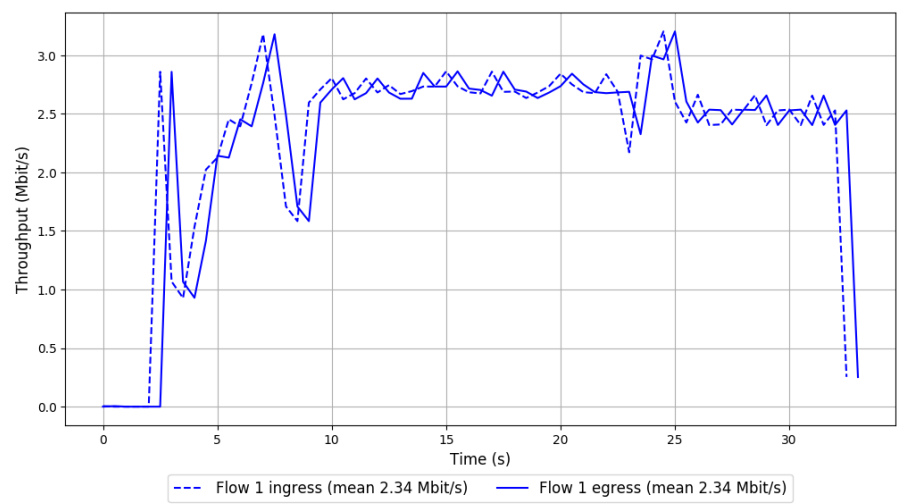
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-10 01:20:43
End at: 2018-10-10 01:21:13
Local clock offset: -6.799 ms
Remote clock offset: 0.461 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 2.905 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 2.905 ms
Loss rate: 0.00%
```
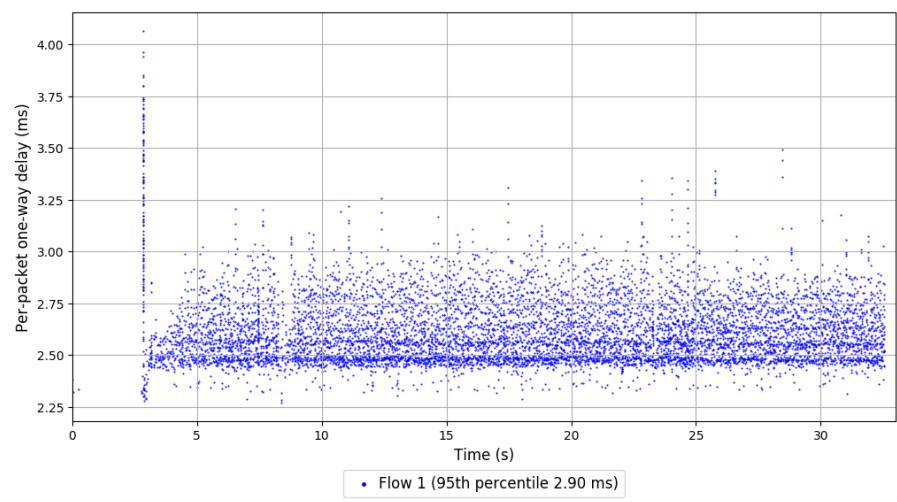
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-10 01:41:04
End at: 2018-10-10 01:41:34
Local clock offset: -6.624 ms
Remote clock offset: 0.557 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 2.915 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 2.915 ms
Loss rate: 0.00%
```
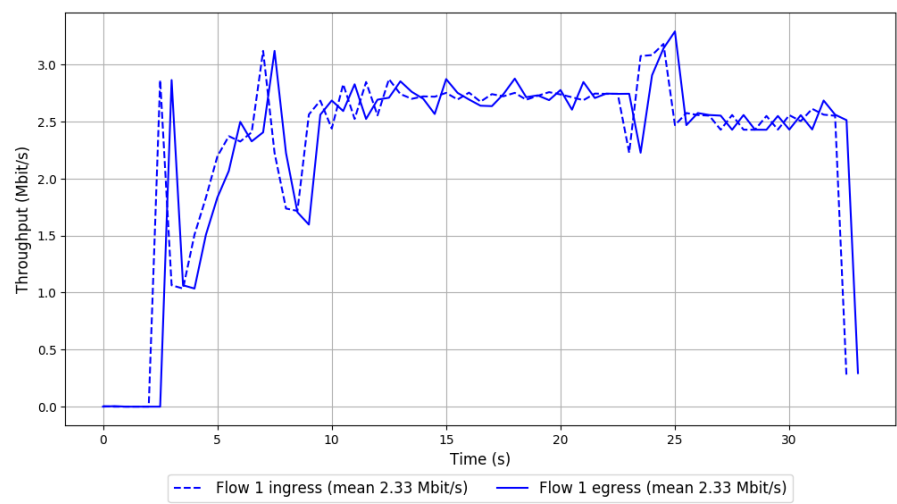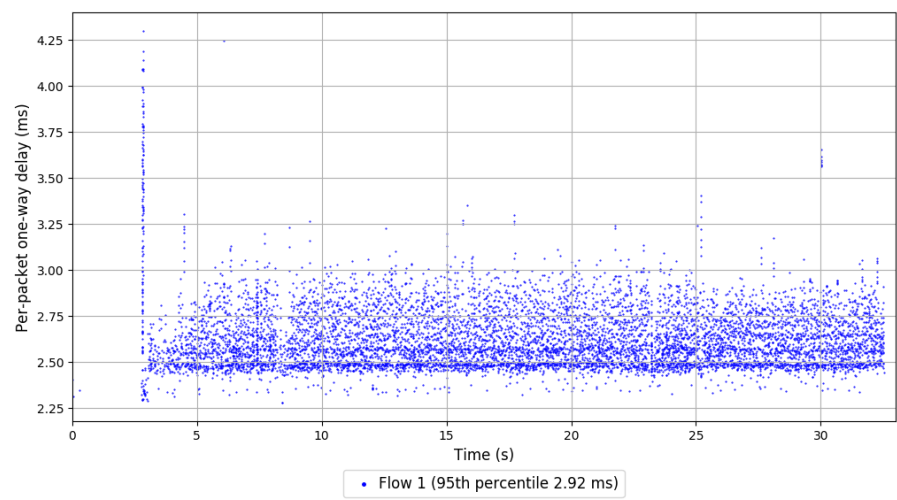
Run 4: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.35 Mbit/s)   Flow 1 egress (mean 2.35 Mbit/s)

Flow 1 (95th percentile 2.92 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-10 02:01:26
End at: 2018-10-10 02:01:56
Local clock offset: -3.963 ms
Remote clock offset: 0.53 ms


# Below is generated by plot.py at 2018-10-10 02:18:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 2.825 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 2.825 ms
Loss rate: 0.02%
```
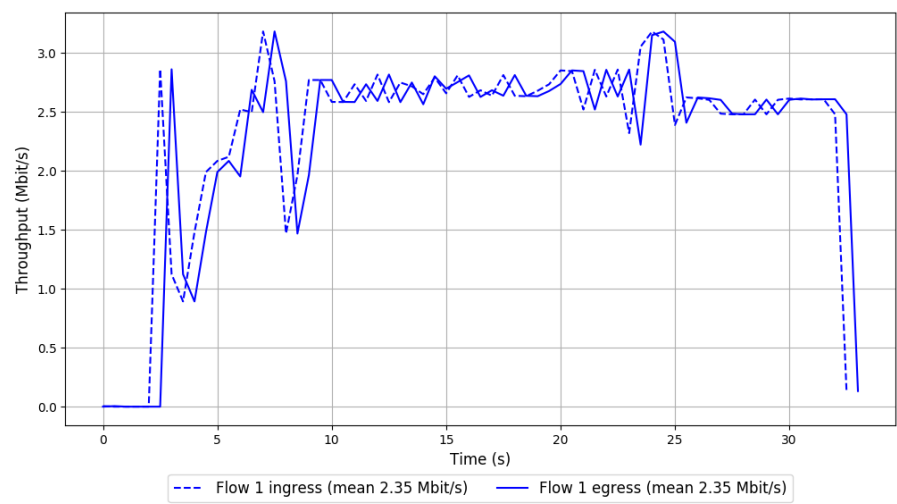
Run 5: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.34 Mbit/s)   Flow 1 egress (mean 2.34 Mbit/s)

Flow 1 (95th percentile 2.83 ms)